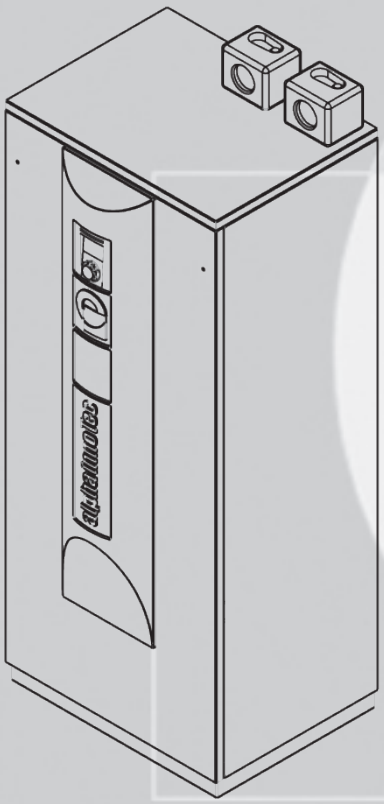
Operating Manual

UK

BRINE/WATER COMPACT Heat Pumps



SWC – Series

alpha innoTec

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Please read first

This operating manual provides important information on the handling of the unit. It is an integral part of the product and must be stored so that it is accessible in the immediate vicinity of the unit. It must remain available throughout the entire service life of the unit. It must be handed over to subsequent owners or operators of the unit.

Read the operating manual before working on or operating the unit. This applies in particular to the chapter on safety. Always follow all instructions completely and without restrictions.

It is possible that this operating manual may contain instructions that seem incomprehensible or unclear. In case of questions or uncertainty, contact the factory customer service department or the manufacturer's local service partner.

Since this operating manual was written for several different models of the unit, always comply with the parameters for the respective model.

This operating manual is intended only for persons assigned to work on or operate the unit. Treat all constituent parts confidentially. The information contained herein is protected by copyright. No part of this operating manual may be reproduced, transmitted, copied, stored in electronic data systems or translated into another language, either wholly or in part, without the express written permission of the manufacturer.

Alpha-InnoTec GmbH
Industriestrasse 3
D – 95359 Kasendorf
Tel.: +49 (0) 9228 9906 0
Fax: +49 (0) 9228 9906 29

e-Mail: info@alpha-innotec.com

www.alpha-innotec.com

Symbols

The symbols used in the operating manual have the following meaning:

Information for operators.

Information or instructions for qualified technicians.

DANGER!
Failure to observe this information could result in immediate danger to life and limb.

WARNING!
Failure to observe this information could result in serious personal injury.

CAUTION!
Failure to observe this information could result in moderate or slight personal injury.

CAUTION.
Failure to observe this information could result in material damage.

NOTICE.
Emphasized information.

Reference to other sections of the operating manual.

Reference to other instructions of the manufacturer.

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Contents

INFORMATION FOR OPERATORS AND QUALIFIED TECHNICIANS

PLEASE READ FIRST 2
SYMBOLS 2
INTENDED USE 4
EXCLUSION OF LIABILITY 4
EC CONFORMITY 4
SAFETY 4
CUSTOMER SERVICE 5
WARRANTY / GUARANTEE 5
DISPOSAL 5

INFORMATION FOR OPERATORS

FUNCTIONING PRINCIPLE OF THE HEAT PUMP SYSTEM 6
AREA OF UTILIZATION 6
OPERATION 6
COOLING FUNCTION 7
CARE OF THE UNIT 8
MAINTENANCE OF THE UNIT 8
MALFUNCTIONS 8

INSTRUCTIONS FOR QUALIFIED TECHNICIANS

SCOPE OF DELIVERY 9
INSTALLATION AND ASSEMBLY 9
- Installation area 9
- Transport to installation location 9
- Installation 10
- Installation of the hydraulic connections 11
- Insulating the hydraulic connections 13
- Safety components 13
- Expansion vessels 13

ELECTRICAL CONNECTIONS 14
RINSING AND FILLING THE UNIT 16
- Rinsing and filling the heat source 17
- Rinsing and filling the heating circuit 17
- Cleaning and rinsing of unit components 17

BLEEDING 17
- Bleeding the unit 17
- Bleeding the circulating pump of the heating circuit 17
- Bleeding the circulating pump of the heat source 17
- Bleeding the heat source for a unit without cooling function 17
- Bleeding the heat source for a unit with cooling function 18

OVERFLOW VALVE 18
INSTALLATION OF THE HEAT PUMP AND HEATING REGULATOR 19
MOUNTING AND REMOVAL OF THE SCREEN 19
INSTALLATION OF THE ROOM THERMOSTAT FOR THE COOLING FUNCTION 20
HOT-WATER TANK 21
COMMISSIONING 22
DISMANTLING 23
TECHNICAL DATA/SCOPE OF DELIVERY
- SWC 60H(/K) – SWC 120H(/K) 24
- SWC 140H(/K) – SWC 330(/K) 26

PERFORMANCE CURVES
Heating Capacity/COP / Power Consumption / Free Compression
- SWC 60H(/K) 28
- SWC 70H(/K) 29
- SWC 80H(/K) 30
- SWC 100H(/K) 31
- SWC 120H(/K) 32
- SWC 140H(/K) 33
- SWC 170H(/K) 34
- SWC 230(/K) 35
- SWC 330(/K) 36

DIMENSIONAL DRAWINGS AND CLEARANCE DIMENSIONS
- Size 1: Dimensional drawings 38
- Size 1: Clearance dimensions 39
- Size 2: Dimensional drawings 40
- Size 2: Clearance dimensions 41

TERMINAL DIAGRAMS
- SWC 60H(/K) – SWC 170H(/K) 42
- SWC 230(/K) – SWC 330(/K) 43

CIRCUIT DIAGRAMS
- SWC 60H(/K) – SWC 80H(/K) 44
- SWC 100H(/K) – SWC 170H(/K) 46
- SWC 230(/K) 48
- SWC 330(/K) 50

APPENDIX

EC DECLARATION OF CONFORMITY 52
GENERAL CHECKLIST 53
COMPLETION REPORT FOR HEAT PUMP SYSTEMS 55
NOTES 57

CUSTOMER SERVICE

- Addresses in the event of a service call 58

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Intended use

The unit may be used only for the intended use. This means:

- for heating.
- for heating hot water.
- for cooling.
  (Availability of the cooling function depends on the model).

☞ "Cooling function" section.

The unit may be operated only within its technical parameters.

☞ Overview "Technical data/scope of delivery".

NOTICE:
Notify the responsible power supply company of the use of a heat pump or heat pump system.

Exclusion of liability

The manufacturer will not be liable for damage resulting from unauthorized use of the unit.

The manufacturer's liability will also be voided in the following cases:

- if work is performed on the unit and its components in a manner that does not comply with the terms of this operating manual;
- if work is performed on the unit and its components in an improper manner;
- if work is performed on the unit that is not described in this operating manual, and this work was not expressly approved in writing by the manufacturer;
- if the unit or components in the unit are modified, redesigned or removed without the express written permission of the manufacturer.

EC conformity

The unit bears the CE mark of conformity.

☞ EC declaration of conformity

Safety

The unit is operational safe when used for the intended purpose. The construction and design of the unit conform to the state of the art, all relevant DIN/VDE regulations and all relevant safety regulations.

Every person who performs work on the unit must have read and understood the operating manual prior to starting any work. This also applies if the respective person has already worked with such a unit or a similar unit or has been trained by the manufacturer.

Every person who performs work on the unit must comply with the applicable accident prevention and safety regulations. This applies in particular to the wearing of personal safety gear.

DANGER!
Unit operates under high electric voltage!

DANGER!
Only qualified technicians (trained heating, cooling, refrigerant and electrical technicians) may perform work on the unit and its components.

WARNING!
Observe safety labels on and in the unit.

DANGER!
Unit contains refrigerants!

WARNING!
Leaking refrigerant could result in personal injury or material damage.

- **Shut down unit.**
- **Ventilate installation location.**
- **Notify the manufacturer's authorized service center.**

CAUTION.
For safety reasons:
Never disconnect the unit from the power supply network.

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Customer service

For technical assistance, contact the factory customer service department or the manufacturer's local service partner.

☞ Overview "Customer service".

Warranty / Guarantee

For warranty and guarantee conditions, please refer to the purchase documents.

NOTICE:
Please contact your dealer concerning warranties and guarantees.

Disposal

When decommissioning the unit, always comply with applicable laws, directives and standards for the recovery, recycling and disposal of materials and components of cooling units.

☞ "Dismantling".

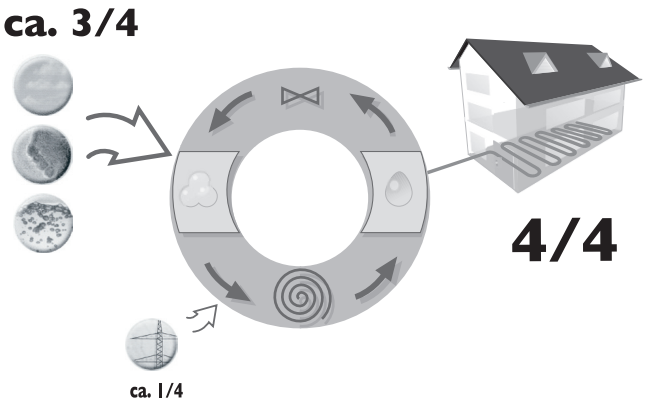
© Alpha-InnoTec GmbH

Functioning principle of the heat pump system

In a closed circuit, an environmentally compatible refrigerant is successively vaporized, condensed and liquefied. The increase in pressure resulting from this process also causes the temperature of the refrigerant to rise. This generates high temperatures suitable for heating, for example by means of floor or wall heating, or through radiators.

There are three ways to supply a heat pump with heat energy: stored heat from the sun in the air, in the earth and in the ground water. The heat generated from the respective heat source (air, earth or water) and the heat pump is conveyed to the heating system by means of a heat exchanger. Generally, water is used as a heating medium, and three types of pumps - air/water, brine/water and water/water pumps – are possible. A brine/water pump with floor heating, for example, takes about ¾ of the energy needed for heating from the environment. Only about ¼ of the energy has to be supplied as electric power.

Example: drawing of a brine/water heat pump with floor heating:



Area of utilization

Taking into consideration the ambient conditions, limits of application and the applicable regulations, every heat pump can be utilized in new or existing heating systems.

☞ Overview "Technical data/scope of delivery".

Operation

Your decision to purchase a heat pump or a heat pump system is a long-term contribution to protecting the environment through low emissions and reduced primary energy use.

You can operate and control the heat pump system with the heat pump and heating regulator.

NOTICE:
Make sure that the control settings are correct.

Operating manual of the heat pump and heating regulator.

To ensure that your heat pump or heat pump system operates efficiently and ecologically, the following are especially important:

NOTICE:
Avoid unnecessarily high flow temperatures. A lower flow temperature on the hot water side increases the efficiency of the system.

When letting in fresh air, do not leave windows open for an extended period in order to save energy and reduce your heating costs.

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Cooling function

The cooling function is available only for heat pumps with the **model designator K**.

It is not possible to retrofit heat pumps for cooling without this designator. For the model designator, please refer to the purchase documents. It is also on the rating plate attached to the outside of the unit.

The cooling function is based on the principle of passive cooling. An existing low temperature level is mixed to a temperature above the dew point and transferred to the heating medium by means of a heat exchanger. The heat pump remains switched off during cooling; only the circulating pumps for the heating circuit and the heat source are in operation.

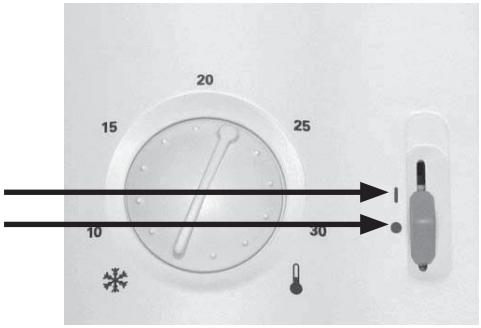
The cooling power depends on the heat source temperature, which varies seasonally. For example, if the ground stored more heat toward the end of the summer, the cooling power of a brine/water pump is reduced.

The effectiveness of passive cooling is generally not comparable to that of an air conditioning system.

NOTICE:
The use of the passive cooling function requires floor or wall heating.

THE ROOM THERMOSTAT FOR THE COOLING FUNCTION

The room thermostat is used to switch the cooling function on and off:



I Cooling function on
● Cooling function off

The heat pump regulation program activates the cooling function only if the following conditions are fulfilled:

- Heat pump model must have integrated cooling function.
- Room thermostat for the cooling function must be switched on.
- Temperature of the heat source must be ≥ +5 °C.
- Heat pump must not currently be occupied with "heating" or "water heating".
  If the heat pump regulation program sends the command "water heating" to the heat pump, the cooling function of the heat pump automatically stops as long as the water is heating.
- The "Automatic" settings must be selected on the heat pump and heating regulator under "Operating mode: cooling".
- The outdoor temperature release set at the heat pump and heating regulator must be exceeded.

Operating manual of the heat pump and heating regulator.

© Alpha-InnoTec GmbH

Care of the unit

The outer surfaces of the unit can be cleaned with a damp cloth and household cleaning products.

Do not use cleaning or care products that contain abrasives, acids and/or chlorine. Such products would destroy the surfaces and could also damage the technical components of the unit.

Maintenance of the unit

The cooling circuit of the heat pump requires no regular maintenance.

The components of the heating circuit and the heat source (valves, expansion vessels, circulating pumps) should be inspected annually by a qualified technician.

It is a good idea to have a maintenance contract with a heating installation company. The company will conduct the required maintenance at regular intervals.

Malfunctions

In the event of a malfunction, you can detect the cause of the malfunction via the diagnostic program of the heat pump and heating regulator.

Operating manual of the heat pump and heating regulator.

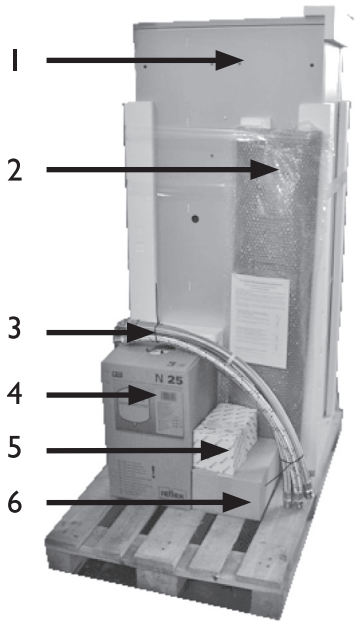
DANGER!
Service and repair work on the components of the unit may be performed only by customer service personnel authorized by the manufacturer.

Overview “Customer service”.

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Scope of delivery

Example of scope of delivery:



1 Compact unit
2 Screen
3 Vibration decouplers (only for size 1 units)
4 Expansion vessel for heat circuit
5 Safety components for heat circuit and heat source
6 Package with heat pump and heating regulator, outdoor temperature sensor, seals, sylomer strips, cap valve and wall mount for heating circuit expansion vessel, room thermostat for cooling function (only for models with designator K), compensators (only for size 2 units; in additional cardboard box)

Proceed as follows:

① Inspect delivery for outwardly visible signs of damage…

② Check to make sure that delivery is complete. Any defects or incorrect deliveries must be claimed immediately.

NOTICE:
Note the model.

☞ Overview "Technical data/scope of delivery" or rating plate on unit.

Installation and assembly

Observe the following when performing all work:

NOTICE:
Always comply with applicable accident prevention regulations, with applicable statutory regulations, ordinances and directives.

WARNING!
The heat pump or heat pump system may be installed and assembled only by a qualified technician!

NOTICE:
Observe the sound levels of the respective model.

☞ Overview "Technical data/scope of delivery", "Sound" section.

INSTALLATION AREA

CAUTION.
Install the heat pump only indoors.

The installation area must be frost-free and dry. It must meet the requirements of DIN EN 378. It must also fulfill applicable local regulations.

TRANSPORT TO INSTALLATION LOCATION

To avoid damage during transport, you should transport the unit to the final installation location in its original packaging (with angle bracket on the wooden pallet), using a lifting truck.

If it is not possible to transport the unit to the final installation location using a lifting truck, you can also transport the heat pump using a hand truck.

DANGER!
Several people are required to transport the unit. Do not underestimate the weight of the heat pump.

☞ Overview "Technical data/scope of delivery", "General unit data" section.

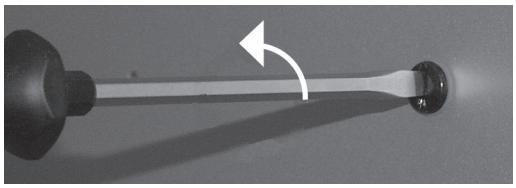
© Alpha-InnoTec GmbH

DANGER!
The unit can tip when being removed from the wooden pallet and during transport with a hand truck. This can result in personal injury and damage to the unit.

- **Take suitable precautionary measures to eliminate the danger of tipping.**

We recommend removing the front panel to reduce the weight of the unit for further transport.

① Loosen quick-release screws for the front panel. Turn counter-clockwise 90°…



② Lift front panel and set aside in a safe place.

DANGER!
Make sure to secure unit against slipping during transport.

CAUTION.
Never use components and hydraulic connections on the unit for purposes of transport.

CAUTION.
Do not damage the hydraulic connections under any circumstances.

CAUTION.
Do not tilt the unit more than a maximum of 45° (in any direction).

INSTALLATION

DANGER!
Several people are required to install the unit.

NOTICE:
Take into account the size of the unit.

Overview "Technical data/scope of delivery", "General unit data" section.

NOTICE:
Always comply with required clearance dimensions.

Overview "Dimensional drawings" and "Clearance dimensions" for the respective size.

Proceed as follows at the installation location:

① Remove angle bracket, transport and packaging material from the unit…

Dispose of angle bracket, transport and packaging material properly and in accordance with ecological principles.

② Set unit on a solid and level, preferably sound-insulated surface…

③ Compensate for minor unevenness using the provided sylomer strips…

The sylomer strips also provide for added stability of the heat pump. They absorb sound and vibrations transmitted to the underlying surface.

Place the sylomer strips under the heat pump as follows:

③•①

Tip the unit slowly and carefully to one side…

CAUTION.
Never tilt the unit more than a maximum of 45°.

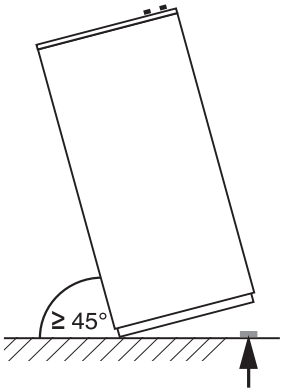
We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

WARNING!
Hands and fingers could be crushed during the following tasks!

Secure unit in raised position so that it cannot accidentally tip back into the original position.

③•②

Place one sylomer strip flush with the respective outer edge of the unit…



③•③

Slowly and carefully tip the unit back into the original position…

④ Repeat steps ③•① through ③•③ for the remaining sides of the unit.

Place sylomer strips at right angles to each other, with no space in between:

Operating side

INSTALLATION OF THE HYDRAULIC CONNECTIONS

CAUTION.
The heat source system must be designed according to the specifications of the heat pump guide.

Heat pump guide and "Hydraulic connection" instructions.

NOTICE:
Check to make sure that the diameters and lengths of the pipes for the heating circuit and the heat source are sufficiently dimensioned. The free compression of the circulating pumps must be able to deliver at least the minimum flow rate required for your model.

Overview "Technical data/scope of delivery", "Heat source" and "Heating circuit" sections.

DANGER!
Disconnect unit from power supply if it is connected to the power supply!

Proceed as follows:

① Install shut-off devices at the heating circuit…

② Install shut-off devices at the heat source.

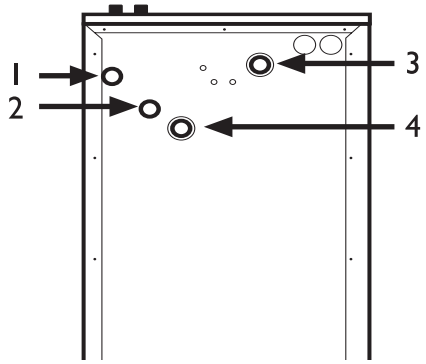
NOTICE:
During installation of the shut-off devices, the compressor and liquefier of the heat pump can be rinsed, if necessary.

CAUTION!
The condenser may be rinsed only by customer service personnel authorized by the manufacturer.

CAUTION.
When installing the connections, always secure the connections on the unit from twisting, in order to prevent damage to the copper pipes in the interior of the unit.

© Alpha-InnoTec GmbH

The connections for the heating circuit or the heat source are located on the back of the unit:



1 Hot water outflow (forward flow)
2 Hot water inflow (return flow)
3 Heat source inflow (return flow)
4 Heat source outflow (forward flow)

INSTALLATION ON SIZE 1 UNITS

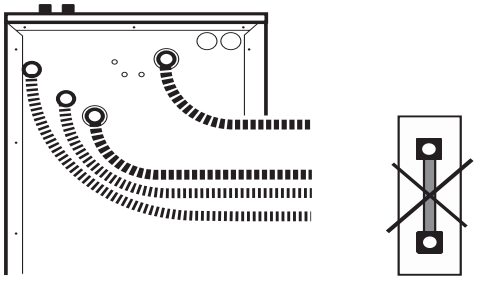
Proceed as follows:

① We recommend installing a contamination filter (screen size 0.9 mm) on the heat source inflow (return flow) connection…

② Connect the pipes of the heating circuit and the heat source with the corresponding connections on the back of the unit. Use vibration decouplers.

These are included in the scope of delivery. They must be installed in order to prevent damage from vibrations to the pipes.

Arrange the vibration decouplers in a quarter circle, as shown in the following drawing:



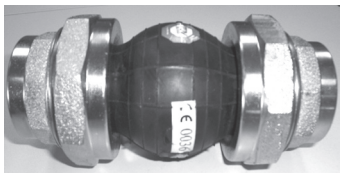
A straight or extended hose arrangement for the vibration decoupler is not permitted.

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

INSTALLATION ON SIZE 2 UNITS

The included compensators must be used for connection to the pipes:

The compensators also serve as vibration decouplers.



The compensators are packed in the extra box.

Proceed as follows:

① We recommend installing a contamination filter (screen size 0.9 mm) on the heat source inflow (return flow) connection…

② Screw the compensators by hand onto the connections on the unit until they bear against the rubber gasket…

③ Screw the compensators by hand onto the pipes of the heating circuit and the heat source until they bear against the rubber gasket…

④ Using a suitable tool (e.g. a pipe wrench) to tighten all connections one or two turns to achieve a tight seal.

Do not overtighten. The rubber part of the compensators must not become twisted (torsion). This could cause malfunctions and even serious damage to the unit.

INSULATING THE HYDRAULIC CONNECTIONS

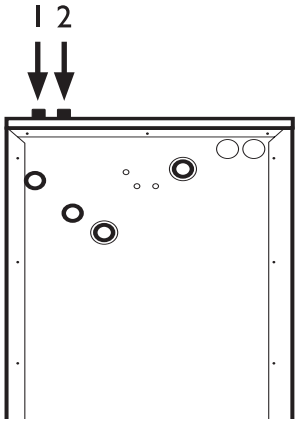
The vibration decouplers and the pipes of the heat source must be insulated so that they are sealed against vapor diffusion.

NOTICE:
Insulate in accordance with applicable local standards and directives.

SAFETY COMPONENTS

The safety components are packed in the extra box.

The connections for the safety components are located at the top rear on the outside of the unit.



1 Connection for heating circuit safety component
2 Connection for heat source safety component

Proceed as follows:

① Install safety component for the heating circuit…

② Install safety component for the heat source.

EXPANSION VESSELS

The expansion vessel for the heat source is integrated in the unit.

The expansion vessel for the heating circuit and the corresponding cap valve are included in the scope of delivery. They must be integrated in the heating circuit on-site in compliance with the applicable standards and directives.

© Alpha-InnoTec GmbH

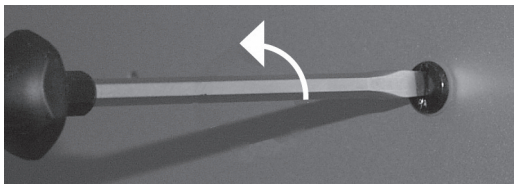
Electrical connections

Observe the following when performing all work:

DANGER!
Electrical connections may be installed only by qualified electricians.

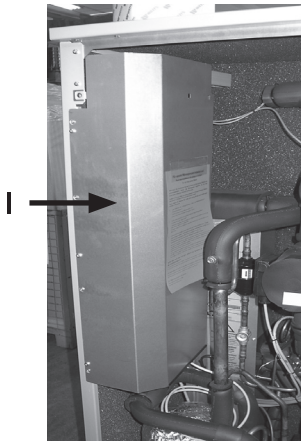
DANGER!
Observe the relevant EN, VDE and/or applicable local safety regulations during the installation and during all electrical work.
Observe the technical connection conditions of the responsible power supply company!

① Loosen quick-release screws for the front panel. Turn counter-clockwise 90°…

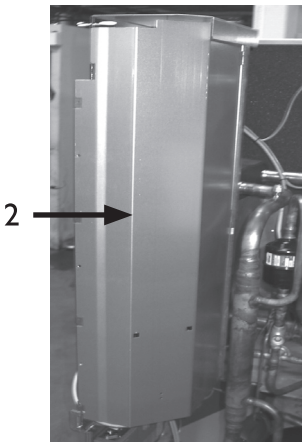


② Lift front panel and set aside in a safe place…

③ Open electric switch cabinet (inside the unit on the left)…

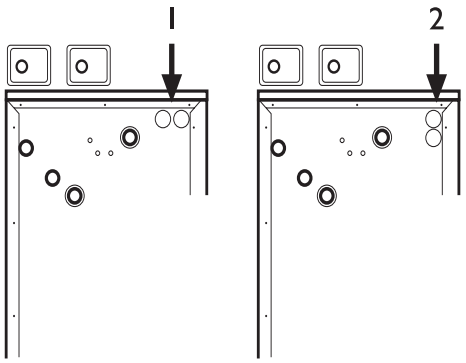


1 Size 1:
Switch cabinet closed.



2 Size 2:
Switch cabinet closed.

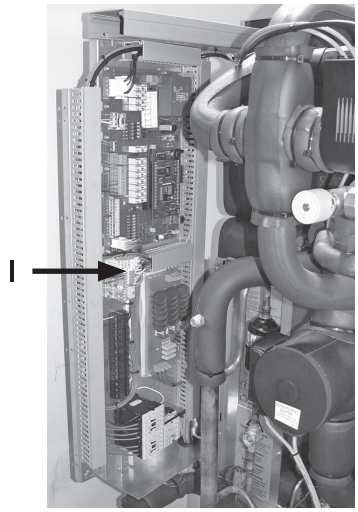
④ Insert load and control leads in the openings provided on the back of the unit…



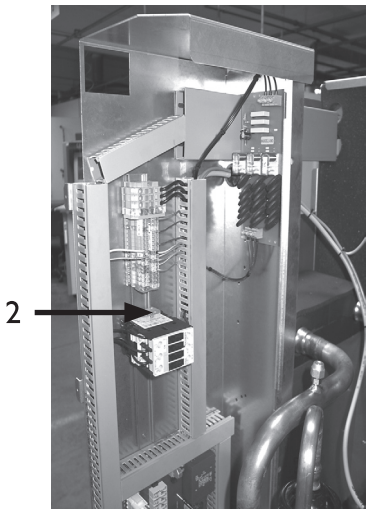
1 Cable duct size 1:
2 Cable duct size 2:

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

⑤ Lay load and control leads in the cable duct inside the unit all the way to the switch cabinet…



1 Size 1:
Switch cabinet opened.



2 Size 2:
Switch cabinet opened.

⑥ Install electrical connections according to the terminal diagram and the circuit diagrams…

☞ „Terminal diagrams" and "Circuit diagrams" for the respective model.

DANGER!
Install electric connections only according to the terminal diagram and the circuit diagrams that apply to your model.

! CAUTION.
Ensure clockwise rotary field of the load power supply.

- **An incorrect rotary field of the condenser during operation can cause serious, irreparable damage to the condenser.**

! CAUTION.
Make sure to equip the power supply of the heat pump with an all-pole circuit breaker.
The all-pole circuit breaker must have a contact gap of at least 3mm.

! CAUTION.
Make sure to equip the power supply of the heat pump with a 3-pole automatic cut-out.
Note the level of the release current.

☞ Overview "Technical data/scope of delivery", "Electric" section.

⑦ After completion of all electrical installation work, close the switch cabinet inside the unit…

⑧ Screw on the front panel of the unit if no further installation work inside the unit is to be performed immediately.

© Alpha-InnoTec GmbH

Rinsing and filling the unit

DANGER!
Unit must be disconnected from the power supply.

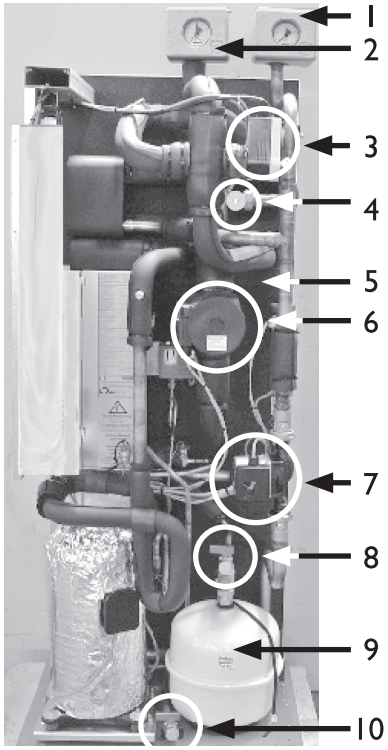
① Open unit if this has not already been done…

Electrical connection work ① and ②.

② Obtain overview of the interior of the unit.

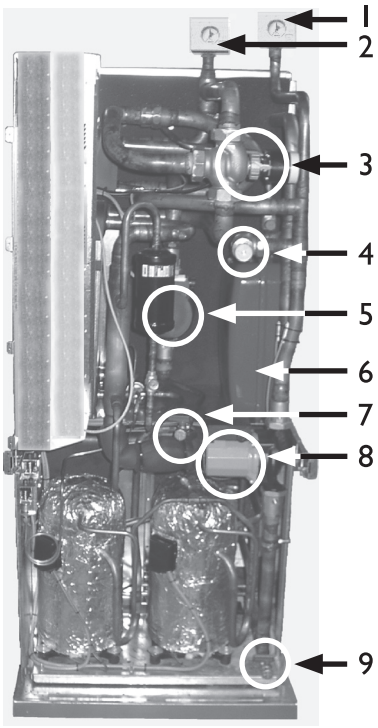
DANGER!
The electric switch cabinet inside the unit must be closed with the cabinet's cover!

SIZE 1:



1 Safety component for heating circuit
2 Safety component for heat source
3 Servo-motor at mixing valve (only on units with model designator K)
4 Overflow valve
5 Electric heating element
6 Circulating pump for heat source
7 Circulating pump for heating circuit
8 Fill/empty cock for heat source
9 Expansion vessel for heat source
10 Fill/empty cock for heating circuit

SIZE 2:



1 Safety component for heating circuit
2 Safety component for heat source
3 Servo-motor at mixing valve (only on units with model designator K)
4 Overflow valve
5 Circulating pump for heat source
6 Expansion vessel for heat source
7 Fill/empty cock for heat source
8 Circulating pump for heating circuit
9 Fill/empty cock for heating circuit

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

RINSING AND FILLING THE HEAT SOURCE

Contamination and deposits in the heat source can cause malfunctions.

Proceed as follows:

① Rinse heat source system thoroughly…

② Thoroughly mix the anti-freeze agent, available as an accessory, with water at the required ratio. Add only anti-freeze mixed with water to the heat source…

! CAUTION.
The concentration of anti-freeze in the water must be at least at the level specified for your model.

☞ Overview "Technical data/scope of delivery", "Heat source" section.

③ Check concentration of anti-freeze in the mixture…

④ Fill heat source with the anti-freeze mixture.

RINSING AND FILLING THE HEATING CIRCUIT

Contamination and deposits in the heating circuit can cause malfunctions.

① Rinse heating circuit system thoroughly…

② Fill heating circuit.

CLEANING AND RINSING OF UNIT COMPONENTS

! CAUTION.
Unit components may be cleaned and rinsed only by customer service personnel authorized by the manufacturer. Use only liquids recommended by the manufacturer.

Rinsing of the liquefier with chemical cleaning agents must be followed by neutralization of residue and intensive rinsing with water. Always observe the technical data of the manufacturer of the heat exchanger.

Bleeding

Proceed as follows:

① Place a bleeder at the highest point of the heat source in the heat source outflow (forward flow)…

If necessary, place a bleeder at the highest point of the heat source in the heat source inflow (return flow)…

② Place a bleeder at the highest point of the heating circuit in the heating circuit outflow (forward flow)…

If necessary, place a bleeder at the highest point of the heating circuit in the heating circuit inflow (return flow).

BLEEDING THE UNIT

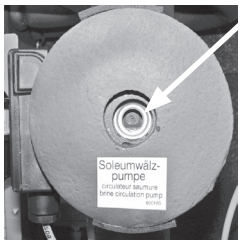
The unit is bled automatically when the bleeders of the safety components are open. If the heating circuit or heat source is filled or emptied, the bleeding valves of the respective safety components open.

BLEEDING THE CIRCULATING PUMP OF THE HEATING CIRCUIT

Loosen the screw-on cap in the middle of the circulating pump.

BLEEDING THE CIRCULATING PUMP OF THE HEAT SOURCE

Loosen the screw-on cap in the middle of the circulating pump.



BLEEDING THE HEAT SOURCE FOR A UNIT WITHOUT COOLING FUNCTION

Bleeding is conducted automatically by means of the integrated bleeding function in the safety component.

© Alpha-InnoTec GmbH

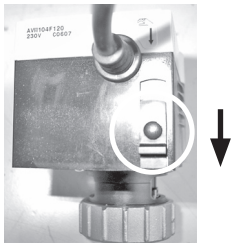
BLEEDING THE HEAT SOURCE FOR A UNIT WITH COOLING FUNCTION

The bleeding must be conducted manually.

Proceed as follows:

① Release the servo-motor at the mixing valve inside the unit…

Push switch on servo-motor down…



② Adjust mixing valve…

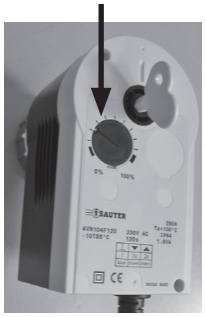
Use the wrench included in the scope of delivery. Alternatively: Use a size 6 Allen wrench.

②•①

Insert wrench in the servo-motor…

②•②

Turn wrench counter-clockwise until the regulator of the servo-motor is at 0 %…



②•③

Switch on the circulating pump of the heat source and allow to run…

②•④

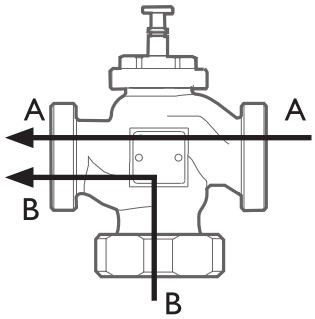
After 2 minutes, with the circulating pump running, turn wrench clockwise until the regulator of the servo-motor is at 100 %…

Leave at this setting for 2 minutes…

②•⑤

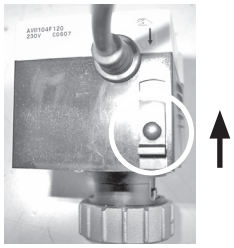
With the circulating pump running, turn wrench counter-clockwise until the regulator of the servo-motor is at 50 %…

Turning the regulator to 50 % means an even mixture in the 3-way mixing valve from A and B to AB.



Reset servo-motor of the mixing valve to automatic as soon as bleeding is completed.

NOTICE:
Push switch on servo-motor up.



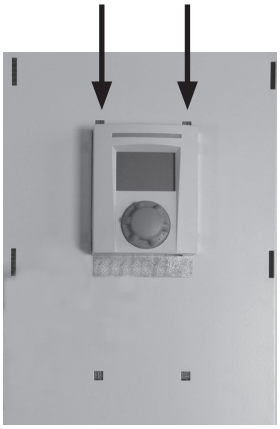
Overflow valve

Set the overflow valve so that the spread between the forward and return flow is ≤ 10K (set at the factory to 200 mbar and sealed by paint).

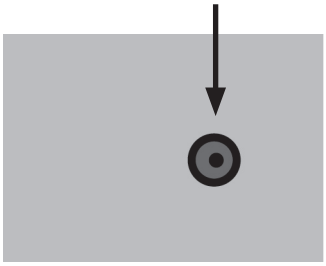
We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Installation of the heat pump and heating regulator.

① Suspend the heat pump and heating regulator in the two square recesses in the front panel…



② Lay the control cable for the regulator from the inside of the unit through the sleeve in the front panel to the outside…



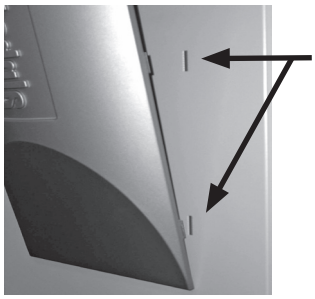
③ Install the front panel on the unit…

④ Insert the control cable into the bushing provided on the bottom of the heat pump and heating regulator.

Mounting and removal of the screen

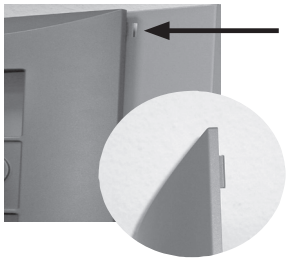
① **First**, insert the screen **at the bottom** in the slot provided on the front panel of the heat pump…

② First, insert snap-in lugs **on one side** of the screen **from bottom to top** in the slots provided on the front panel of the unit…



③ Then, insert snap-in lugs **on the other side** of the screen **from bottom to top** in the slots provided on the front panel of the unit…

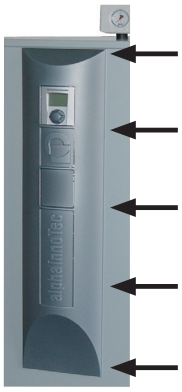
④ Finally, press the upper snap-in lugs of the screen into the slots provided.



© Alpha-InnoTec GmbH

NOTICE:
To remove the screen, release the snap-in lugs in the reverse order, i.e. from top to bottom, without the use of tools.

CAUTION.
The snap-in lugs have a tight fit. Press firmly from the side against the screen toward the middle, so that the snap-in lugs do not break off.



Installation of the room thermostat for the cooling function

This chapter is relevant for you only if you are using a heat pump with a **model designator K**.

CAUTION.
If floor heating systems are to be used for cooling, the manufacturer must approve the floor structure (especially the screed) for use of the cooling function.

Use the room thermostat of the cooling function in a reference room as a reference variable. If the temperature in the reference room falls below the set temperature, the cooling function of the heat pump will automatically shut off.

Operating manual of the heat pump and heating regulator, "Cooling" chapter.

NOTICE:
You must install the room thermostat in a reference room in addition to single-room regulators.

You must install single-room regulators for switching from heating to cooling (and vice versa).

NOTICE:
Always comply with the applicable standards and directives.

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Hot-water tank

If the heat pump will be used for heating hot water, you must integrate special hot-water tanks in the heat pump system.

NOTICE:
The hot-water tank must be equipped with a heat exchanger, which is adapted to the heating capacity of the heat pump.

We offer a variety of hot-water tanks for you to choose from. They are optimized for use with your heat pump.

NOTICE:
Integrate the hot-water tank in the heat pump system corresponding to the hydraulic diagram for your system.

For heating hot water, you must install a 3-way switching valve in the hot water outflow (forward flow).

The 3-way switching valve is an accessory and is not included in the scope of delivery.

© Alpha-InnoTec GmbH

Commissioning

Proceed as follows:

① Conduct a thorough installation inspection and go through the items on the general checklist.

☞ "General checklist".

The installation inspection will prevent damage to the heat pump system that could be caused by incorrect installation work.

Make sure of the following:

- **Clockwise rotary field** of the load power supply (condenser).
- **Installation and assembly** of the heat pump according to the information in this operating manual.
- All electric installation work must be properly completed.
- Installation of an **all-pole** circuit breaker must be installed for the condenser. It must have a contact gap of at least 3 mm. A **3-pole** automatic cut-out must be installed.
- The heating circuit and the heat source must be rinsed, filled and bled thoroughly.
- All valves and shut-off devices of the heating circuit must be open.
- All valves and shut-off devices of the heat source must be open.
- All pipe systems and components of the system must be sealed.

② Carefully fill out and sign the completion report for heat pump systems.

☞ "Completion report for heat pump systems".

③ In Germany:

Send completion report for heat pump systems to the manufacturer's factory customer service department.

Outside of Germany:

Send completion report for heat pump systems to the manufacturer's local partner.

☞ Overview "Customer service".

④ The heat pump system will be commissioned by customer service personnel authorized by the manufacturer. There is a fee for commissioning!

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Dismantling

DANGER!
Disconnect unit from power supply before dismantling!

DANGER!
Only qualified electrical technicians are allowed to disconnect the unit from the power supply and de-install all electrical connections.

DANGER!
Only qualified heating or cooling system technicians are allowed to remove the unit from the system.

! **CAUTION.**
The anti-freeze mixture of the heat source must not be allowed to enter the sewer system.
Collect anti-freeze mixture and dispose of properly.

DANGER!
Only qualified cooling system technicians are allowed to dismantle the unit and its components.

! **CAUTION.**
Recycle or provide for proper disposal of unit components, refrigerants and oil in accordance with the applicable regulations, standards and directives.

© Alpha-InnoTec GmbH

Technical data/scope of delivery

Heat pump type	Brine/water ı Air/water ı Water/water			• applicable ı — not applicable
Installation location	Indoors ı Outdoors			• applicable ı — not applicable
Conformity				CE
Performance data	Heating capacity/COP at			
	B0/W35	Standard point acc. to EN14511	2 condensers 1 condensers	kW ı ... kW ı ...
	B0/W45	Standard point acc. to EN14511		kW ı ...
	B0/W35	Standard point acc. to EN255	2 condensers 1 condensers	kW ı ... kW ı ...
Limits of application	Heating circuit			°C
	Heat source			°C
	Additional operating points			...
Sound	Sound level measured at distance of 1m around the device (in reverberating room)			dB(A)
	Sound power level according to EN12102			dB
Heat source	Volume flow: minimum flow rate ı nominal flow rate ı maximum flow rate			l/h
	Pressure loss heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
	Free compression heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
	Anti-freeze agent			monoethylene glycol
	minimum concentration ı frost proof down to			% ı °C
Heating circuit	Volume flow: minimum flow rate ı nominal flow rate ı maximum flow rate			l/h
	Pressure loss heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
	Free compression heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
General unit data	Dimensions (see dimensional drawing for the specified unit size)			unit size
	Total weight (including cooling)			kg (kg)
	Additional weight module 1			kg
	Additional weight module 2			kg
	Connections	Heating circuit		...
		Heat source		...
	Refrigerant	Refrigerant type ı Quantity		... ı kg
Electric	Voltage code ı all-pole circuit breaker heat pump *)			... ı A
	Voltage code ı circuit breaker control voltage *)			... ı A
	Voltage code ı circuit breaker electric heating element *)			ı A
Heat Pump	Effective power consumption in standard point B0/W35 according to EN14511: Power consumption ı current consumption ı cosφ			kW ı A ı ...
	Maximum device current within the limits of application			A
	Starting current: direct ı with soft starter			A ı A
	Protection type			IP
	Output electric heating element 3 ı 2 ı 1 phase			kW ı kW ı kW
Components	Circulating pump heating circuit at nominal flow rate: Power consumption ı current consumption			kW ı A
	Circulating pump heat source at nominal flow rate: Power consumption ı current consumption			kW ı A
Passive cooling function	only for units with designator K: Cooling output at nominal volume flow (15 °C heat source, 25 °C heating water)			kW
Safety equipment	Safety component heating circuit ı Safety component heat source			scope of delivery: • yes — no
Heating and heat pump regulator				scope of delivery: • yes — no
Electronic soft starter				integrated: • yes — no
Expansion vessels	Heat source: Scope of delivery ı Volume ı Initial pressure			• yes — no ı l ı bar
	Heating circuit: Scope of delivery ı Volume ı Initial pressure			• yes — no ı l ı bar
Overflow valve				integrated: • yes — no
Vibration decouplers	Heating circuit ı heat source			scope of delivery: • yes — no

UK813196

*) comply with local regulations n.n. = not detectable

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

	SWC 60H(/K)	SWC 70H(/K)	SWC 80H(/K)	SWC 100H(/K)	SWC 120H(/K)
	• ı — ı —	• ı — ı —	• ı — ı —	• ı — ı —	• ı — ı —
	• ı —	• ı —	• ı —	• ı —	• ı —
	•	•	•	•	•
	—	—	—	—	—
	5,7 ı 4,4	6,9 ı 4,4	8,9 ı 4,5	10,2 ı 4,6	11,7 ı 4,5
	—	—	—	—	—
	—	—	—	—	—
	5,8 ı 4,7	7,0 ı 4,5	9,1 ı 4,7	10,3 ı 4,7	11,9 ı 4,7
	20 – 65	20 – 65	20 – 65	20 – 65	20 – 62
	-5 – 25	-5 – 25	-5 – 25	-5 – 25	-5 – 25
	—	—	—	—	B–2 ı W65
	40	40	40	40	40
	53	53	53	53	53
	1000 ı 1400 ı 2500	1250 ı 1650 ı 2500	1450 ı 1900 ı 4000	1600 ı 2200 ı 3500	1800 ı 2600 ı 3900
	— ı —	— ı —	— ı —	— ı —	— ı —
	0,52 (0,5) ı 1100	0,48 (0,46) ı 1250	0,68 (0,66) ı 1450	0,53 (0,50) ı 1600	0,51 (0,49) ı 2050
	•	•	•	•	•
	25 ı -13	25 ı -13	25 ı -13	25 ı -13	25 ı -13
	500 ı 950 ı 1400	600 ı 1200 ı 1500	800 ı 1500 ı 1900	900 ı 1800 ı 2200	1000 ı 2000 ı 2400
	— ı —	— ı —	— ı —	— ı —	— ı —
	0,46 (0,45) ı 700	0,47 (0,46) ı 850	0,41 (0,40) ı 1100	0,34 (0,33) ı 1300	0,32 (0,30) ı 1450
	1	1	1	1	1
	200 (214)	202 (216)	203 (218)	206 (221)	209 (224)
	—	—	—	—	—
	—	—	—	—	—
	G1"AG	G1"AG	G1"AG	G1"AG	G1¼"AG
	G1"AG	G1"AG	G1"AG	G1"AG	G1¼"AG
	R407c ı 1,8	R407c ı 2,0	R407c ı 2,1	R407c ı 2,2	R407c ı 2,9
	3~/PE/400V/50Hz ı C10	3~/PE/400V/50Hz ı C10	3~/PE/400V/50Hz ı C10	3~/PE/400V/50Hz ı C10	3~/PE/400V/50Hz ı C10
	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10
	3~/N/PE/400V/50Hz ı C10	3~/N/PE/400V/50Hz ı C10	3~/N/PE/400V/50Hz ı C10	3~/N/PE/400V/50Hz ı C10	3~/N/PE/400V/50Hz ı C10
	1,29 ı 2,4 ı 0,78	1,57 ı 3,1 ı 0,73	1,98 ı 3,7 ı 0,78	2,22 ı 4,1 ı 0,78	2,6 ı 4,8 ı 0,78
	4,0	5,0	5,9	6,9	7,5
	27,4 ı —	29 ı —	30 ı —	— ı 20	— ı 25
	20	20	20	20	20
	6 ı 4 ı 2	6 ı 4 ı 2	6 ı 4 ı 2	6 ı 4 ı 2	6 ı 4 ı 2
	0,08 ı n.n.	0,08 ı n.n.	0,08 ı n.n.	0,08 ı n.n.	0,08 ı n.n.
	0,1 ı n.n.	0,2 ı n.n.	0,2 ı n.n.	0,2 ı n.n.	0,2 ı n.n.
	3,7	5,3	6,9	8,3	10,2
	• ı •	• ı •	• ı •	• ı •	• ı •
	•	•	•	•	•
	—	—	—	•	•
	• ı 12 ı 0,5	• ı 12 ı 0,5	• ı 12 ı 0,5	• ı 12 ı 0,5	• ı 18 ı 0,5
	• ı 25 ı 1,5	• ı 25 ı 1,5	• ı 25 ı 1,5	• ı 25 ı 1,5	• ı 25 ı 1,5
	•	•	•	•	•
	• ı •	• ı •	• ı •	• ı •	• ı •
	813169-a	813190	813170-a	813171-a	813172-a

© Alpha-InnoTec GmbH

Technical data/scope of delivery

Heat pump type	Brine/water ı Air/water ı Water/water			• applicable ı — not applicable
Installation location	Indoors ı Outdoors			• applicable ı — not applicable
Conformity				CE
Performance data	Heating capacity/COP at			
	B0/W35	Standard point acc. to EN14511	2 condensers 1 condensers	kW ı ... kW ı ...
	B0/W45	Standard point acc. to EN14511		kW ı ...
	B0/W35	Standard point acc. to EN255	2 condensers 1 condensers	kW ı ... kW ı ...
Limits of application	Heating circuit			°C
	Heat source			°C
	Additional operating points			...
Sound	Sound level measured at distance of 1m around the device (in reverberating room)			dB(A)
	Sound power level according to EN12102			dB
Heat source	Volume flow: minimum flow rate ı nominal flow rate ı maximum flow rate			l/h
	Pressure loss heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
	Free compression heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
	Anti-freeze agent			monoethylene glycol
	minimum concentration ı frost proof down to			% ı °C
Heating circuit	Volume flow: minimum flow rate ı nominal flow rate ı maximum flow rate			l/h
	Pressure loss heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
	Free compression heat pump Δp (with cooling ΔpK) ı volume flow			bar (bar) ı l/h
General unit data	Dimensions (see dimensional drawing for the specified unit size)			unit size
	Total weight (including cooling)			kg (kg)
	Additional weight module 1			kg
	Additional weight module 2			kg
	Connections	Heating circuit		...
		Heat source		...
	Refrigerant	Refrigerant type ı Quantity		... ı kg
Electric	Voltage code ı all-pole circuit breaker heat pump *)			... ı A
	Voltage code ı circuit breaker control voltage *)			... ı A
	Voltage code ı circuit breaker electric heating element *)			ı A
Heat Pump	Effective power consumption in standard point B0/W35 according to EN14511: Power consumption ı current consumption ı cosφ			kW ı A ı ...
	Maximum device current within the limits of application			A
	Starting current: direct ı with soft starter			A ı A
	Protection type			IP
	Output electric heating element 3 ı 2 ı 1 phase			kW ı kW ı kW
Components	Circulating pump heating circuit at nominal flow rate: Power consumption ı current consumption			kW ı A
	Circulating pump heat source at nominal flow rate: Power consumption ı current consumption			kW ı A
Passive cooling function	only for units with designator K: Cooling output at nominal volume flow (15 °C heat source, 25 °C heating water)			kW
Safety equipment	Safety component heating circuit ı Safety component heat source			scope of delivery: • yes — no
Heating and heat pump regulator				scope of delivery: • yes — no
Electronic soft starter				integrated: • yes — no
Expansion vessels	Heat source: Scope of delivery ı Volume ı Initial pressure			• yes — no ı l ı bar
	Heating circuit: Scope of delivery ı Volume ı Initial pressure			• yes — no ı l ı bar
Overflow valve				integrated: • yes — no
Vibration decouplers	Heating circuit ı heat source			scope of delivery: • yes — no

UK813196

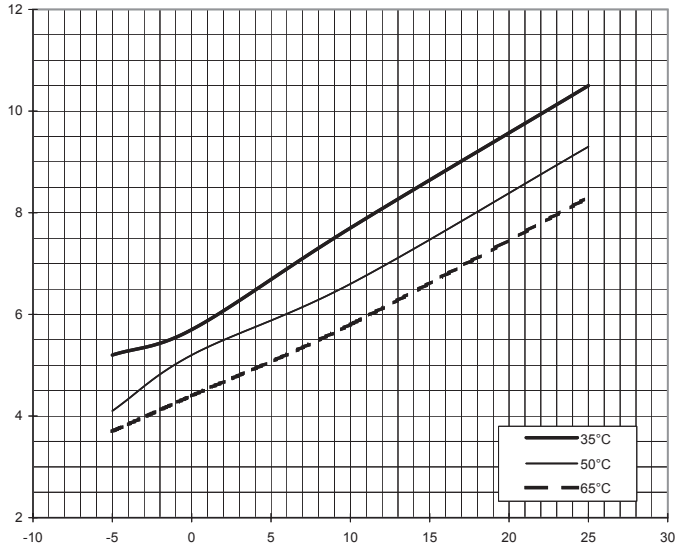
*) comply with local regulations n.n. = not detectable

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

	SWC 140H(/K)	SWC 170H(/K)	SWC 230(/K)	SWC 330(/K)
	• ı — ı —	• ı — ı —	• ı — ı —	• ı — ı —
	• ı —	• ı —	• ı —	• ı —
	•	•	•	•
	—	—	—	31,8 ı 4,1
	13,7 ı 4,5	16,7 ı 4,6	22,1 ı 4,3	17,6 ı 4,5
	—	—	—	—
	—	—	—	32,0 ı 4,3
	13,9 ı 4,7	16,9 ı 4,7	22,5 ı 4,5	17,9 ı 4,6
	20 – 65	20 – 65	20 – 55	20 – 55
	-5 – 25	-5 – 25	-5 – 25	-5 – 25
	—	—	—	—
	42	43	47	47
	55	56	60	60
	2350 ı 3100 ı 4700	2700 ı 3600 ı 5000	3700 ı 4900 ı 5900	5900 ı 7900 ı 10000
	— ı —	— ı —	— ı —	— ı —
	0,43 (0,41) ı 2350	0,36 (0,33) ı 2700	0,74 (0,68) ı 3700	0,42 (0,35) ı 5950
	•	•	•	•
	25 ı -13	25 ı -13	25 ı -13	25 ı -13
	1200 ı 2400 ı 2900	1400 ı 2900 ı 3500	1900 ı 3900 ı 4500	2700 ı 5200 ı 6900
	— ı —	— ı —	— ı —	— ı —
	0,59 (0,57) ı 1700	0,58 (0,55) ı 2050	0,41 (0,38) ı 2700	0,70 (0,67) ı 3900
	1	1	2	2
	212 (227)	220 (235)	345 (360)	372 (390)
	—	—	—	—
	—	—	—	—
	G1¼"AG	G1¼"AG	R1½"IG	R1½"IG
	G1¼"AG	G1¼"AG	R1½"IG	R1½"IG
	R407c ı 2,7	R407c ı 3,6	R407c ı 4,45	R407c ı 6,85
	3~/PE/400V/50Hz ı C13	3~/PE/400V/50Hz ı C13	3~/PE/400V/50Hz ı C16	3~/PE/400V/50Hz ı C25
	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10
	3~/N/PE/400V/50Hz ı C16	3~/N/PE/400V/50Hz ı C16	—	—
	3,0 ı 5,8 ı 0,75	3,63 ı 6,7 ı 0,78	5,14 ı 9,5 ı 0,78	7,76 ı 14,4 ı 0,78
	9,4	11,0	12,5	23,6
	— ı 28	— ı 30	— ı 29,5	— ı 22
	20	20	20	20
	9 ı 6 ı 3	9 ı 6 ı 3	— ı — ı —	— ı — ı —
	0,2 ı n.n.	0,2 ı n.n.	0,2 ı n.n.	0,36 ı n.n.
	0,25 ı n.n.	0,25 ı n.n.	0,35 ı n.n.	0,35 ı n.n.
	9,8	9,0	16,2	26,5
	• ı •	• ı •	• ı •	• ı •
	•	•	•	•
	•	•	•	•
	• ı 18 ı 0,5	• ı 18 ı 0,5	• ı 24 ı 0,5	• ı 24 ı 0,5
	• ı 35 ı 1,5	• ı 35 ı 1,5	• ı 50 ı 1,5	• ı 50 ı 1,5
	•	•	•	•
	• ı •	• ı •	• ı •	• ı •
	813173-a	813174-a	813175-a	813176-a

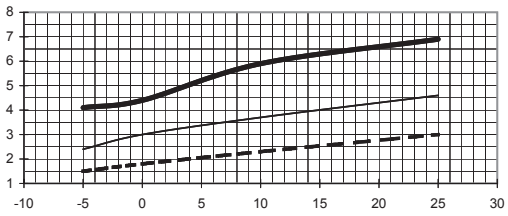
We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Qh (kW)



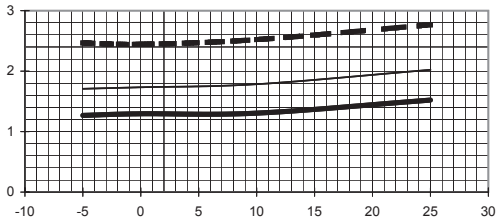
$Temp_{WQ}$ (°C)

COP



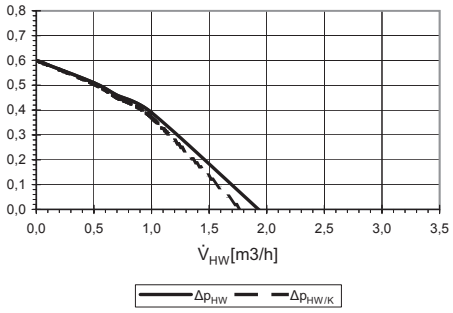
$Temp_{WQ}$ (°C)

Pe (kW)

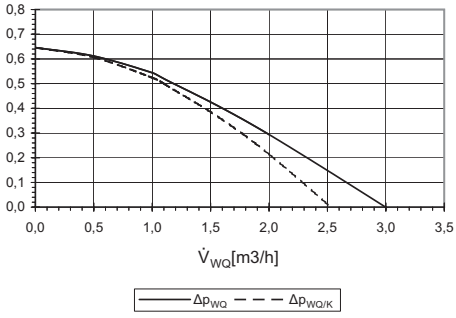


$Temp_{WQ}$ (°C)

Δp (bar)



Δp (bar)



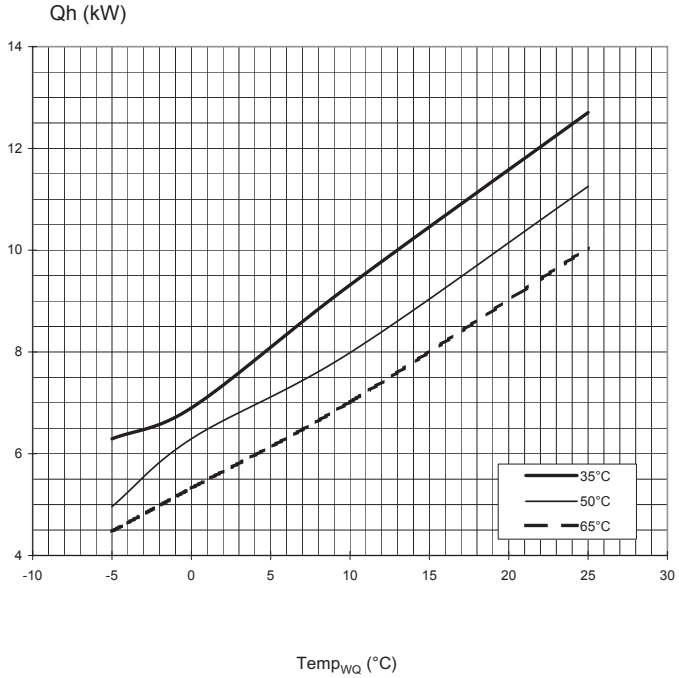
823000

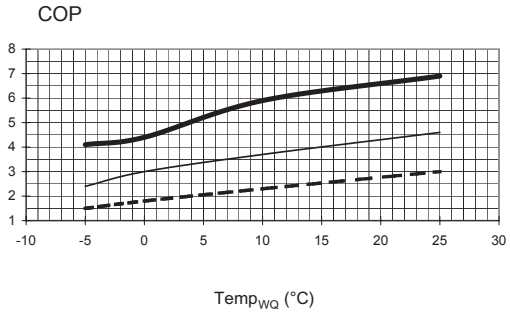
Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
$Temp_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp_{HW} / $\Delta p_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp_{WQ} / $\Delta p_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling

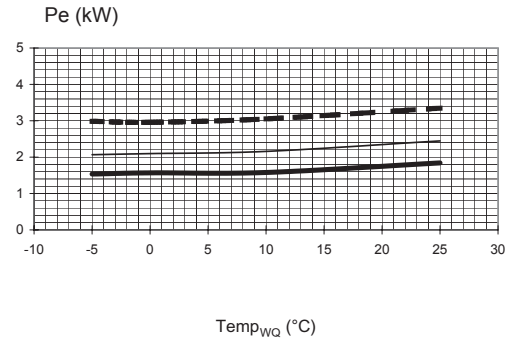
We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

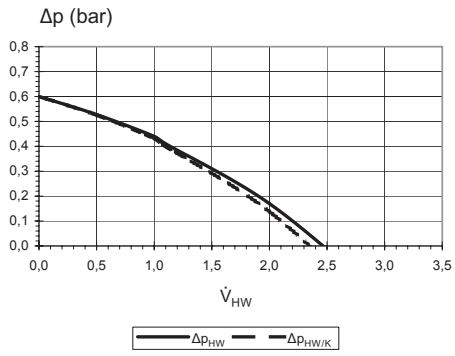
Performance curves

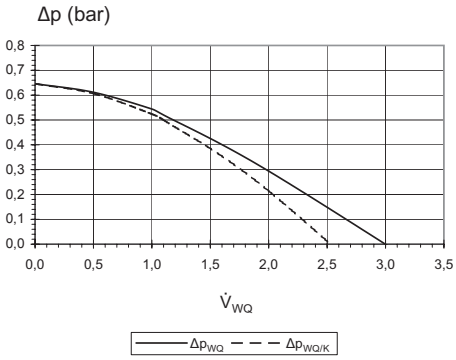
SWC 70H(/K)











823023

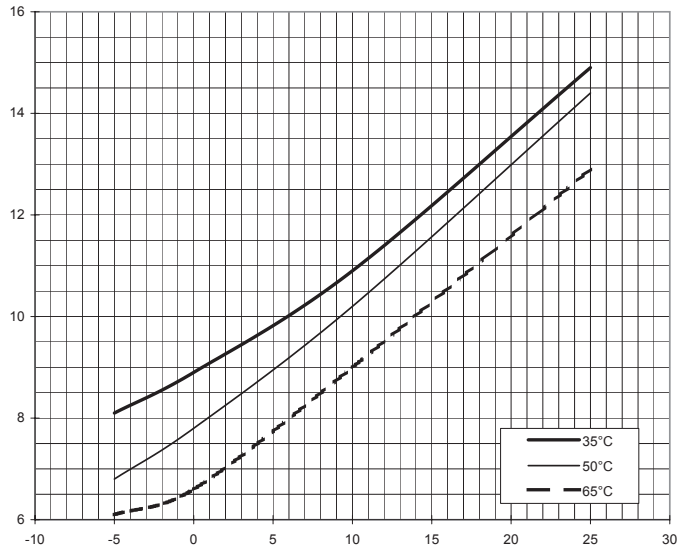
Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
Temp$_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp_{HW} / $\Delta p_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp_{WQ} / $\Delta p_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling

© Alpha-InnoTec GmbH

SWC 80H(/K)

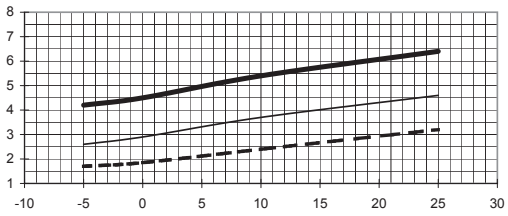
Performance curves

Qh (kW)



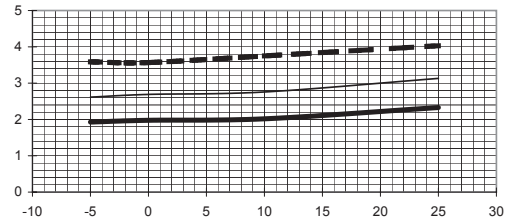
$Temp_{WQ}$ (°C)

COP



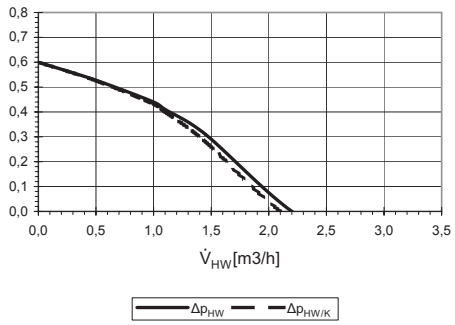
$Temp_{WQ}$ (°C)

Pe (kW)

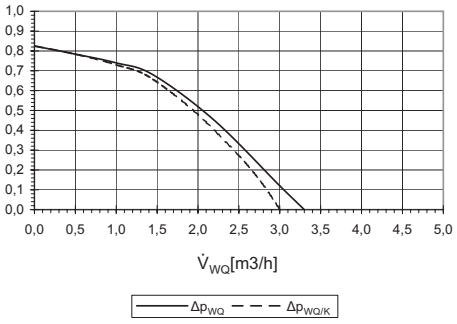


$Temp_{WQ}$ (°C)

Δp (bar)



Δp (bar)



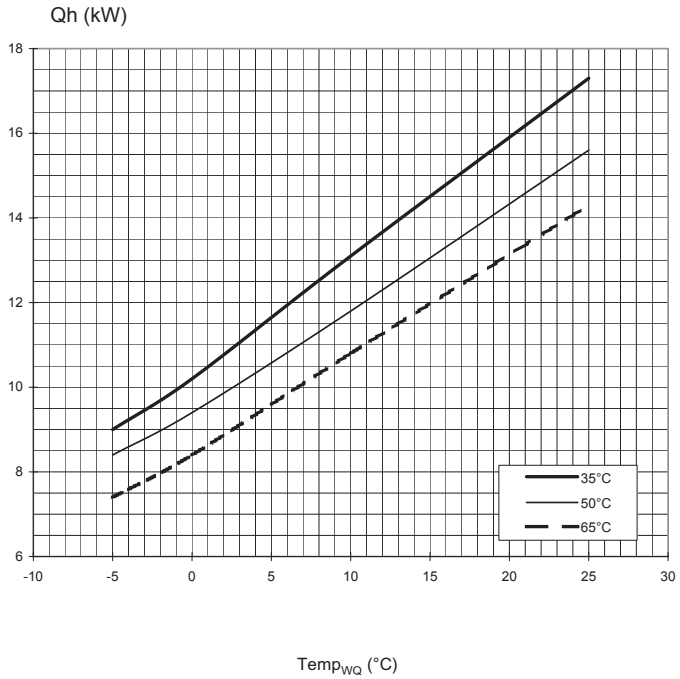
823001

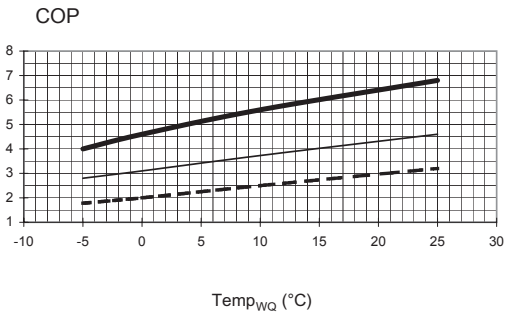
Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
$Temp_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp_{HW} / $\Delta p_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp_{WQ} / $\Delta p_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling

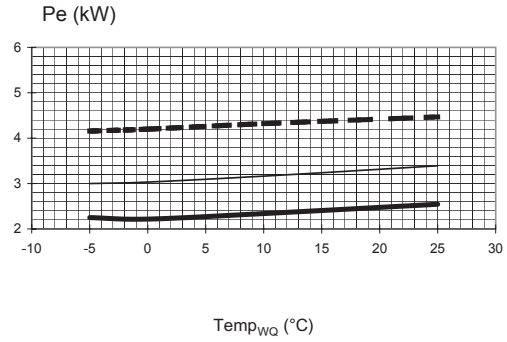
We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

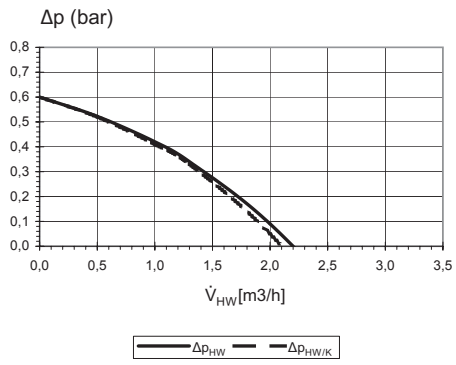
Performance curves

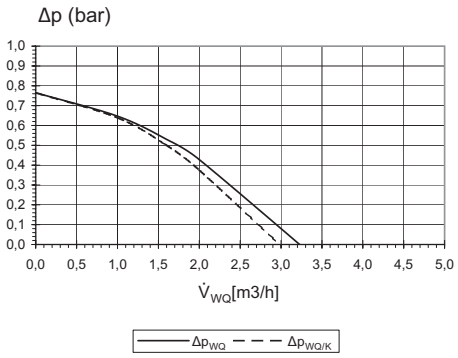
SWC 100H(/K)











823002

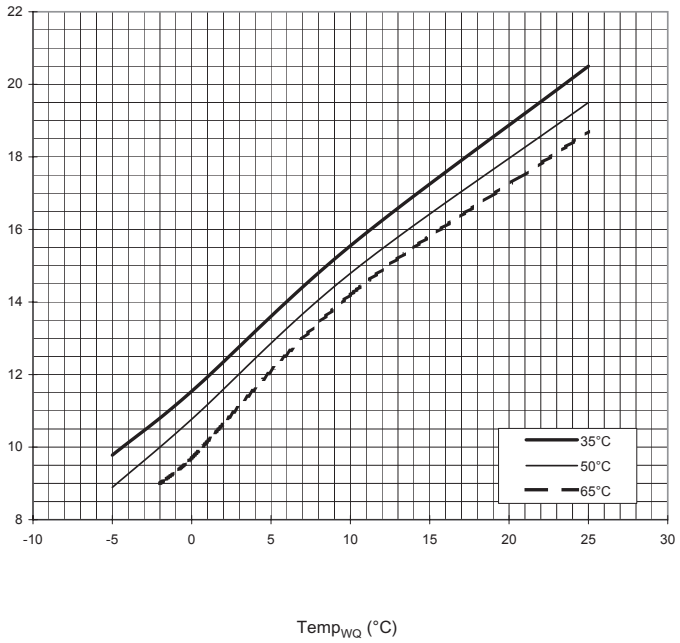
Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
$Temp_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp_{HW} / $\Delta p_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp_{WQ} / $\Delta p_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling

© Alpha-InnoTec GmbH

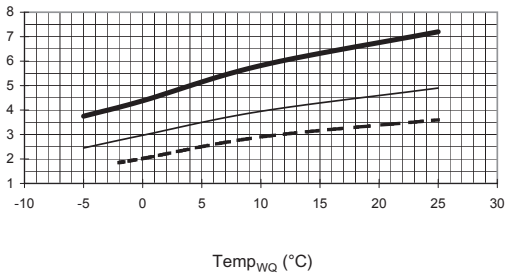
SWC 120H(/K)

Performance curves

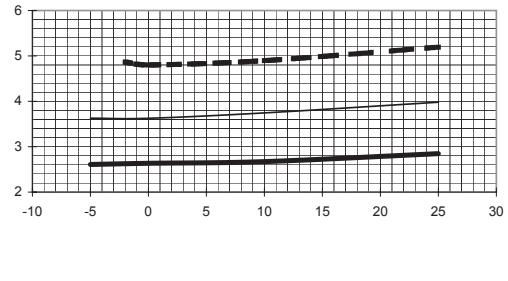
Qh (kW)



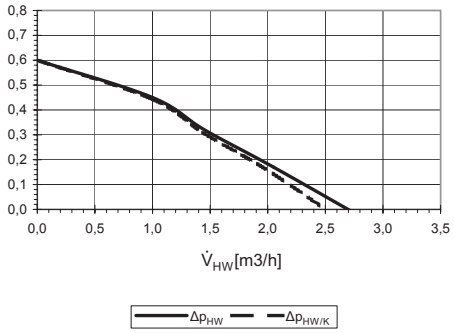
COP



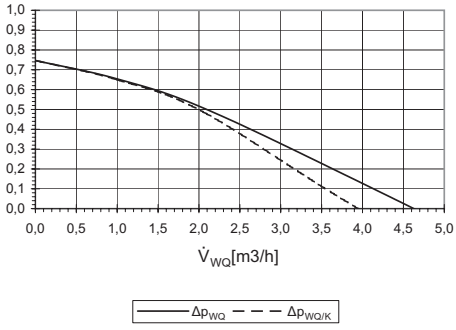
Pe (kW)



Δp (bar)



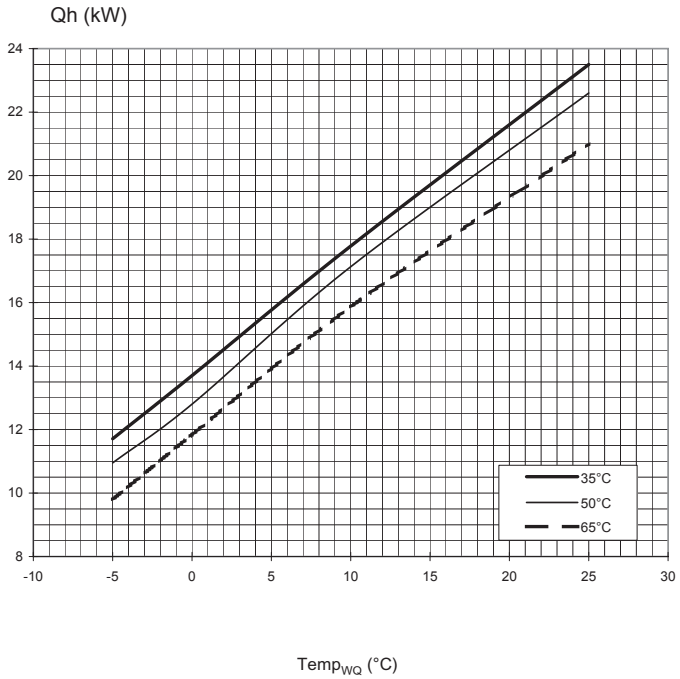
Δp (bar)

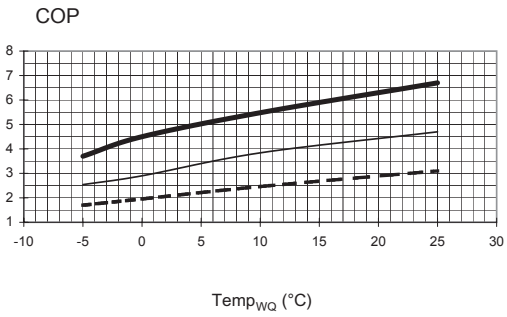


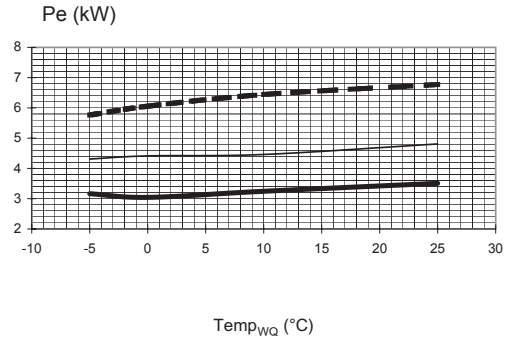
823003

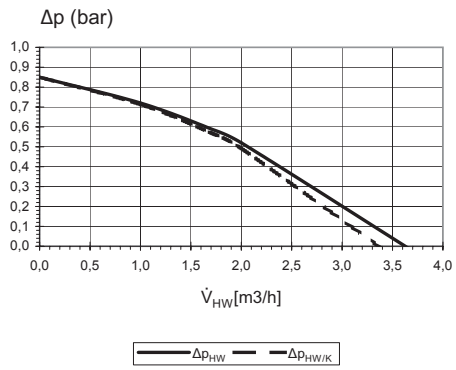
Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
$Temp_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp_{HW} / $\Delta p_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp_{WQ} / $\Delta p_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling

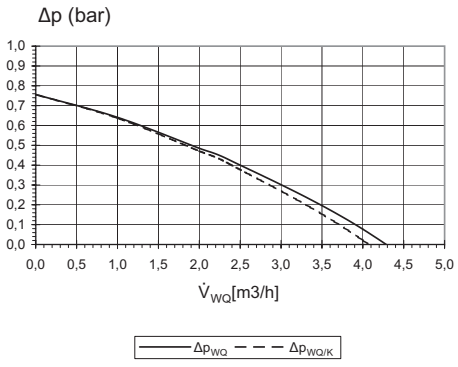
We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH











823004

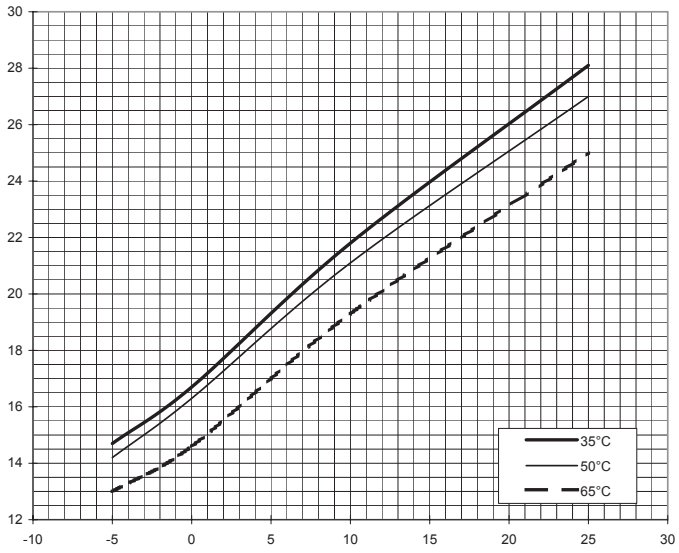
Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
Temp$_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp$_{HW}$ / Δp$_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp$_{WQ}$ / Δp$_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling

© Alpha-InnoTec GmbH

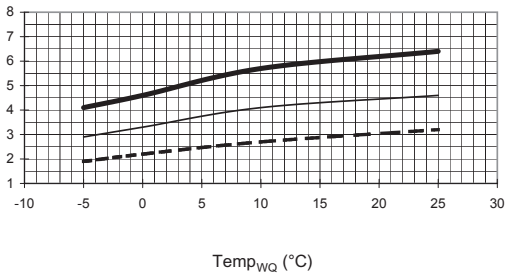
SWC 170H(/K)

Performance curves

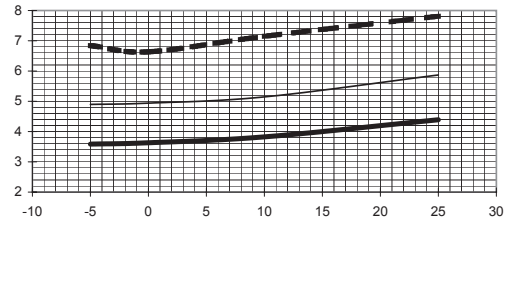
Qh (kW)



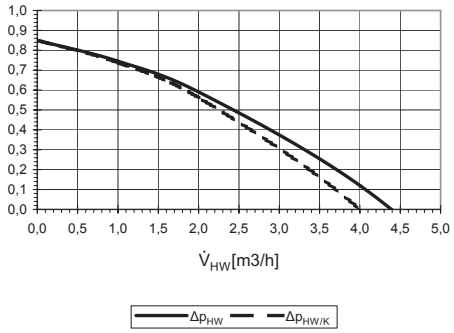
COP



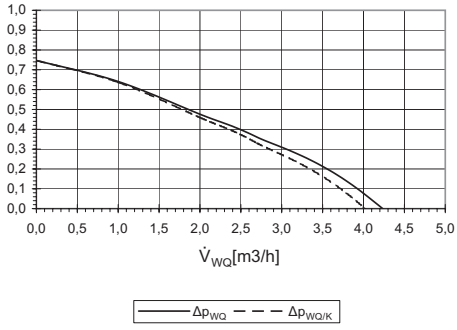
Pe (kW)



Δp (bar)



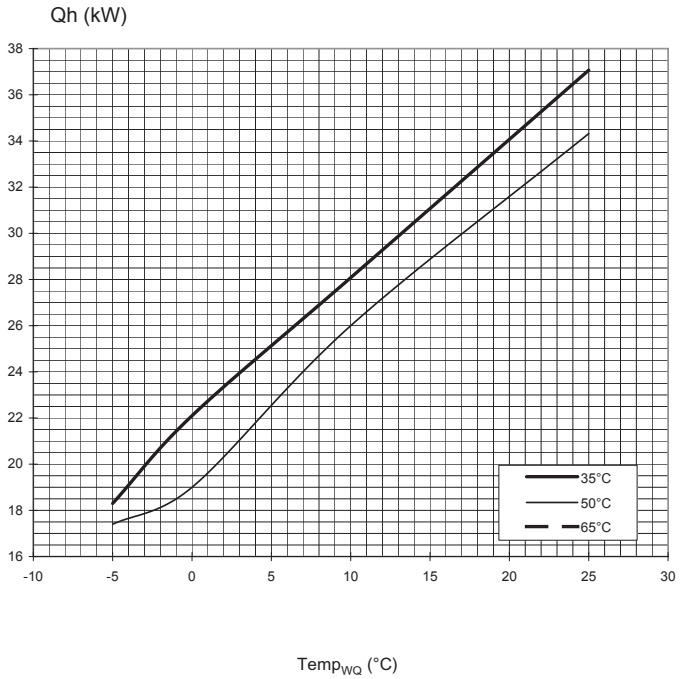
Δp (bar)

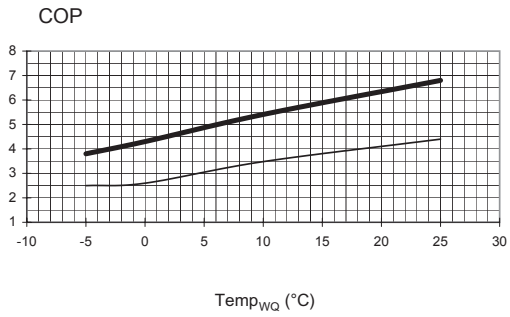


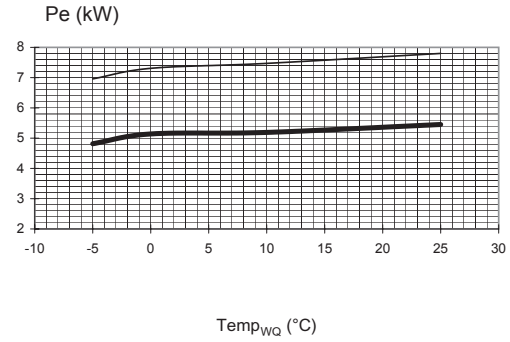
823005

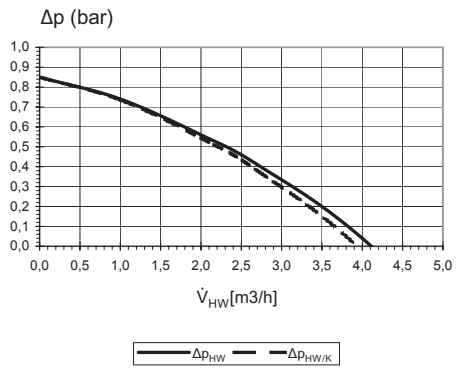
Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
$Temp_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp_{HW} / $\Delta p_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp_{WQ} / $\Delta p_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling

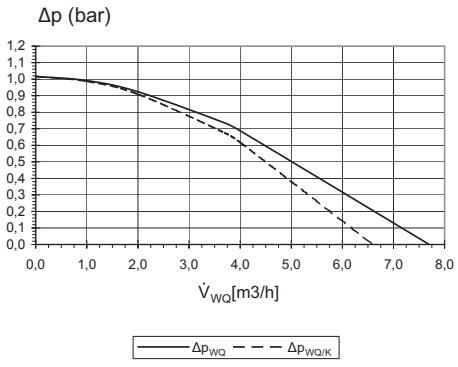
We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH









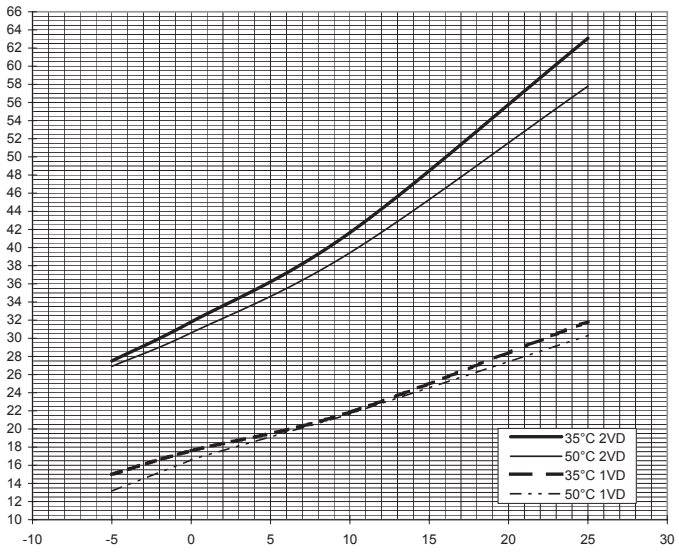


823006

Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
Temp$_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp$_{HW}$ / Δp$_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp$_{WQ}$ / Δp$_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling

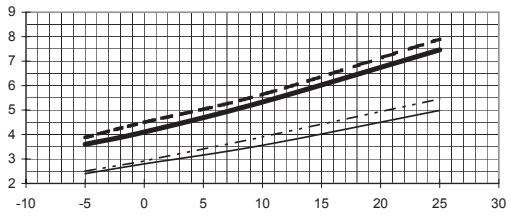
© Alpha-InnoTec GmbH

Qh (kW)



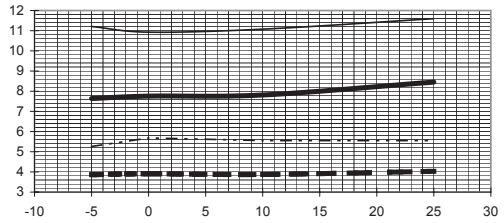
$Temp_{WQ}$ (°C)

COP



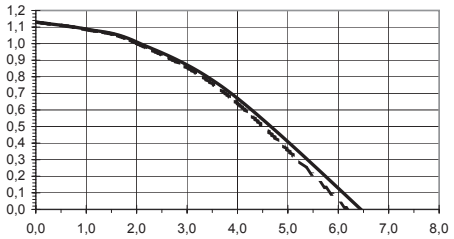
$Temp_{WQ}$ (°C)

Pe (kW)

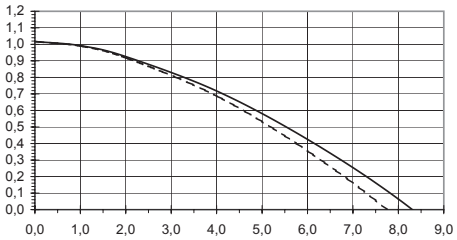


$Temp_{WQ}$ (°C)

Δp (bar)



Δp (bar)

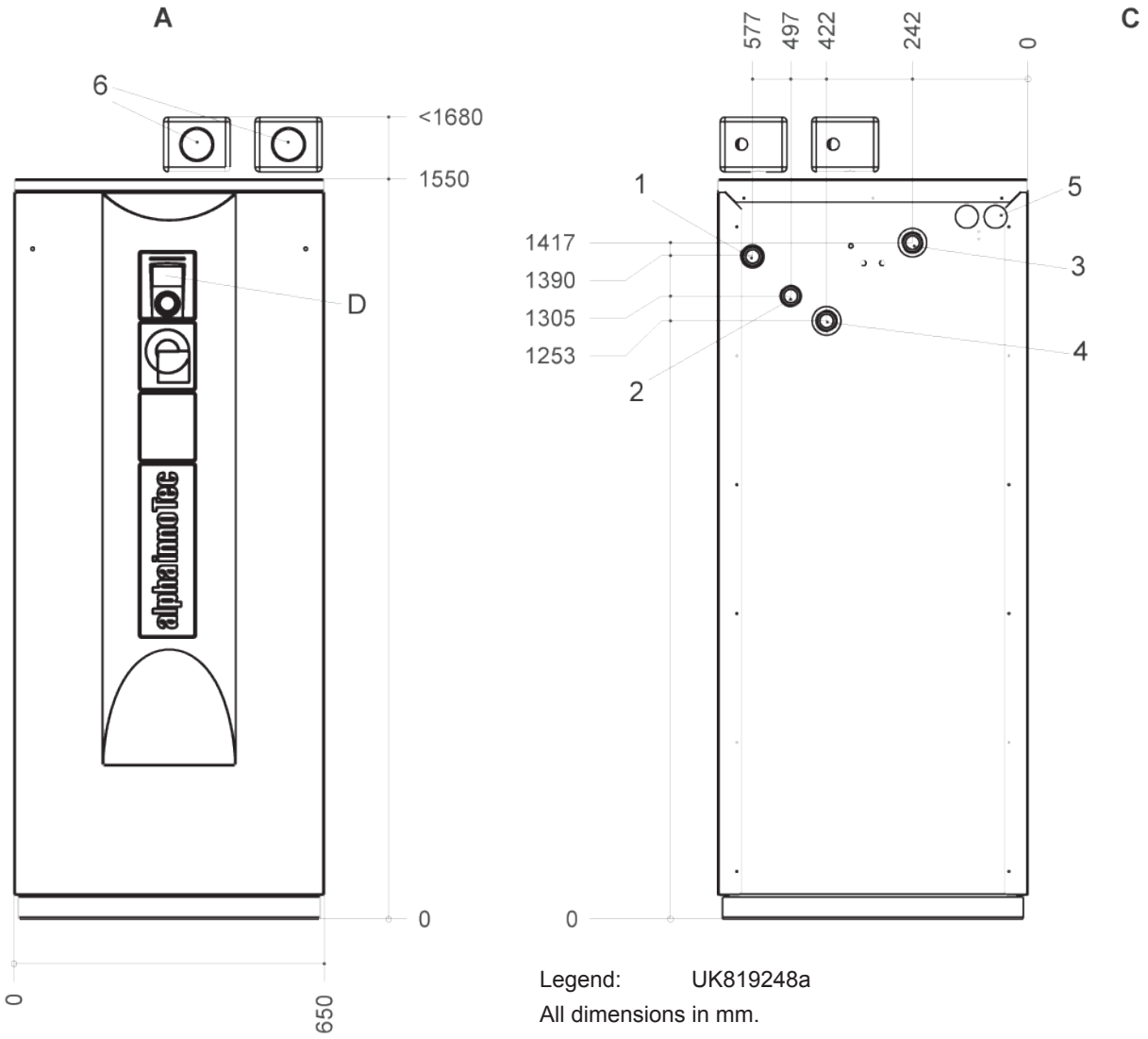


823007

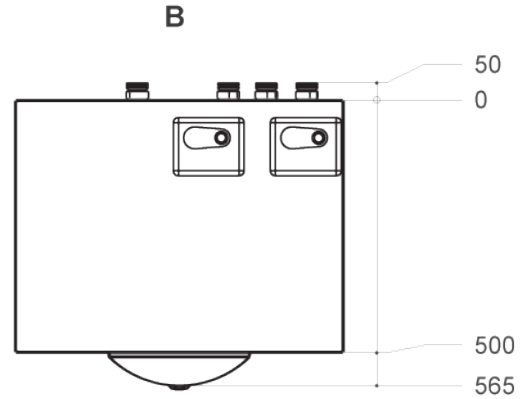
Legend:	UK823000L/170408
$\dot{V}_{HW}$	Volume flow, heating water
$\dot{V}_{WQ}$	Volume flow, heat source
$Temp_{WQ}$	Temperature, heat source
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance / efficiency rating
Δp_{HW} / $\Delta p_{HW/K}$	Free compression, heating circuit / free compression, heating circuit with cooling
Δp_{WQ} / $\Delta p_{WQ/K}$	Free compression, heat source / free compression, heat source with cooling
VD	Condensers

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Size 1: Dimensional drawings



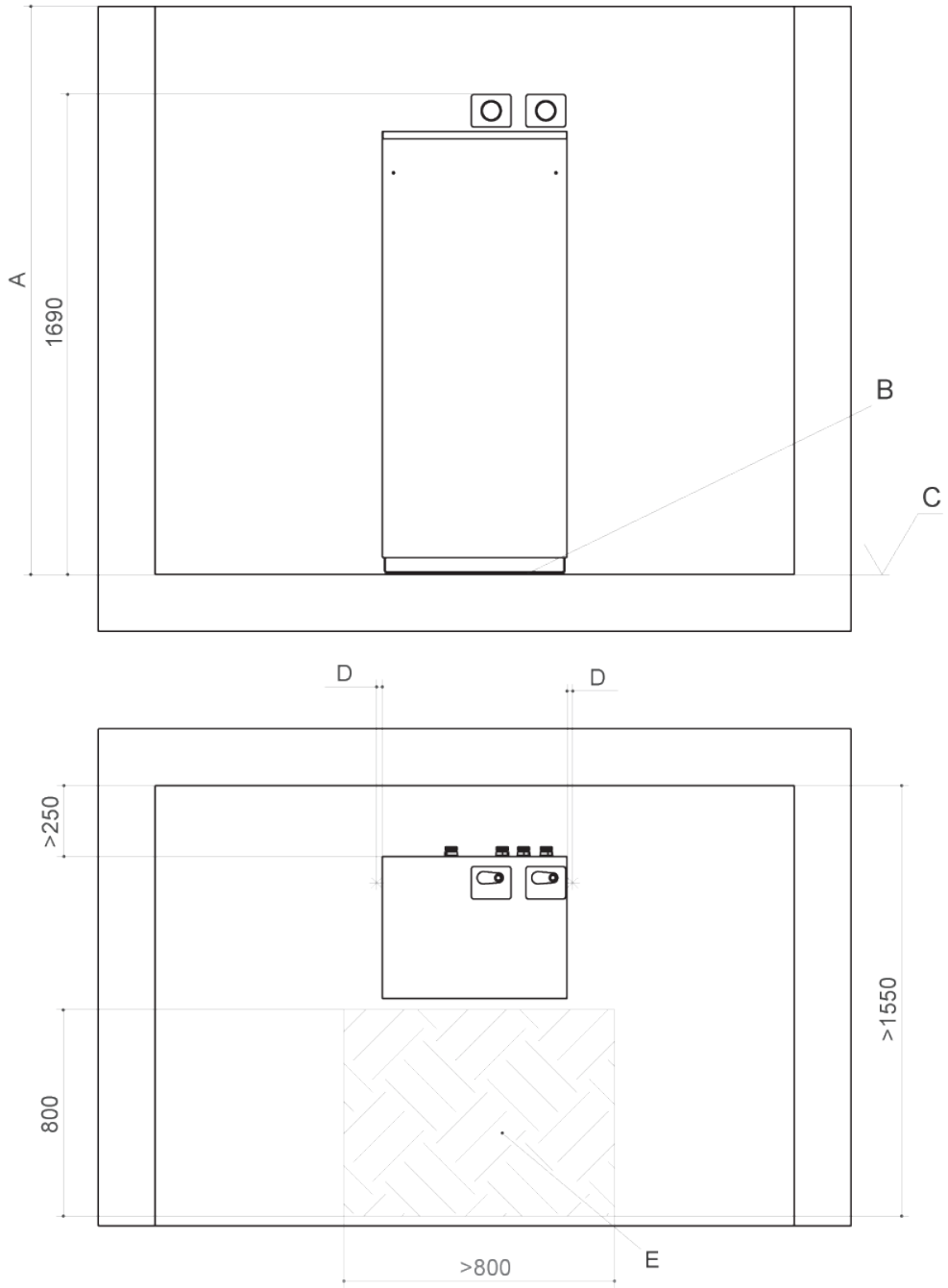
Legend: UK819248a
All dimensions in mm.



A	Front view
B	Top view
C	Rear view
D	Control element
1	Heating water outflow (forward flow) DIN ISO 228 SWC 60… to SWC 100…: G1"AG SWC120… to SWC 170…: G1¼"AG
2	Heating water inflow (return flow) DIN ISO 228 SWC 60… to SWC 100…: G1"AG SWC120… to SWC 170…: G1¼"AG
3	Heat source inflow (return flow) DIN ISO 228 SWC 60… to SWC 100…: G1"AG SWC120… to SWC 170…: G1¼"AG
4	Heat source outflow (forward flow) DIN ISO 228 SWC 60… to SWC 100…: G1"AG SWC120… to SWC 170…: G1¼"AG
5	Ducts for electric/sensor cables
6	Safety components

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Size 1: Clearance dimensions

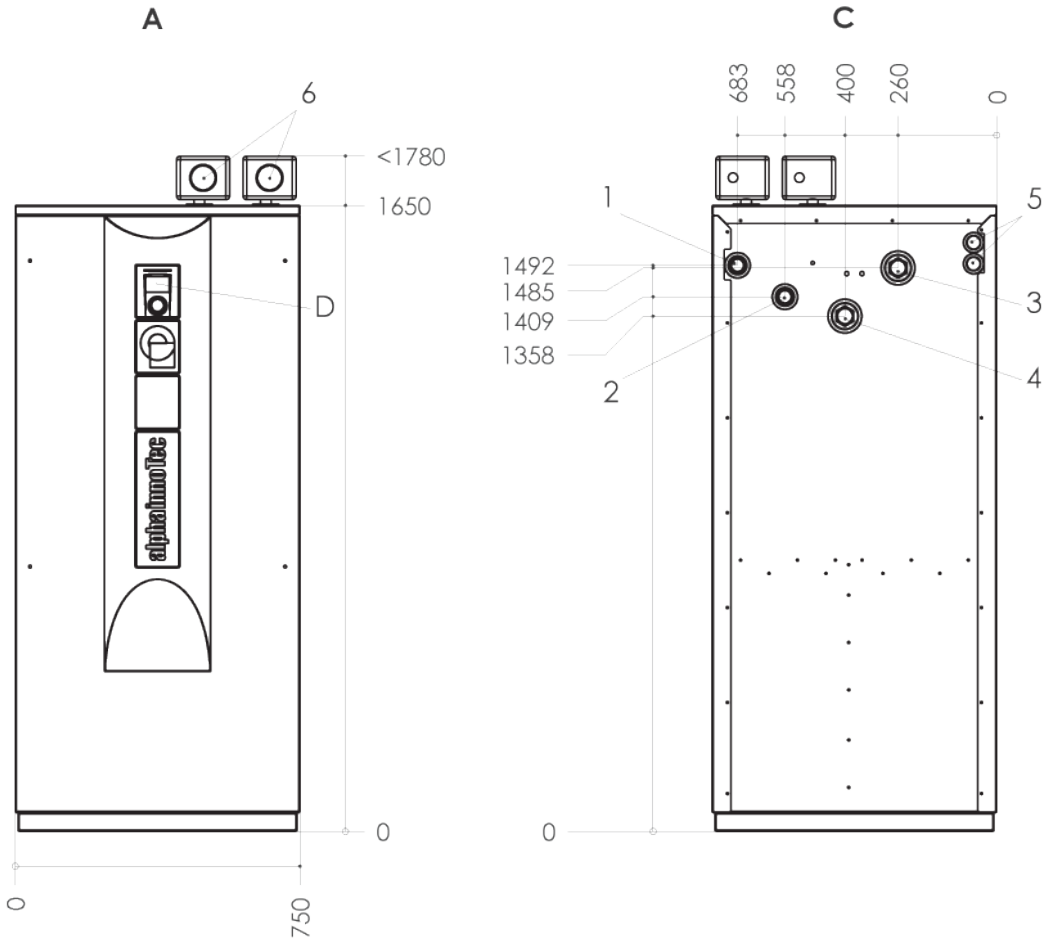


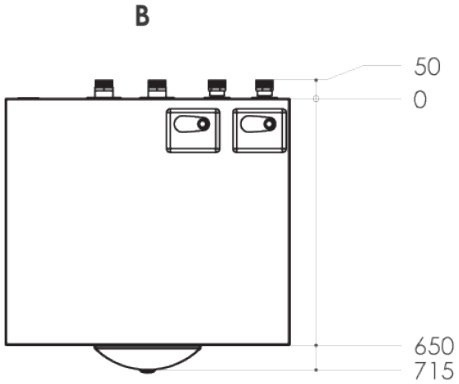
Legend: UK819252b
All dimensions in mm.

A	Room height ≥ 2000
B	Unit installation on sylomer strips
C	Top edge of finished floor
D	Distance to next lateral object ≥ 20
E	Shaded area = free space for service purposes

© Alpha-InnoTec GmbH

Size 2: Dimensional drawings





Legend: UK819253a
All dimensions in mm.

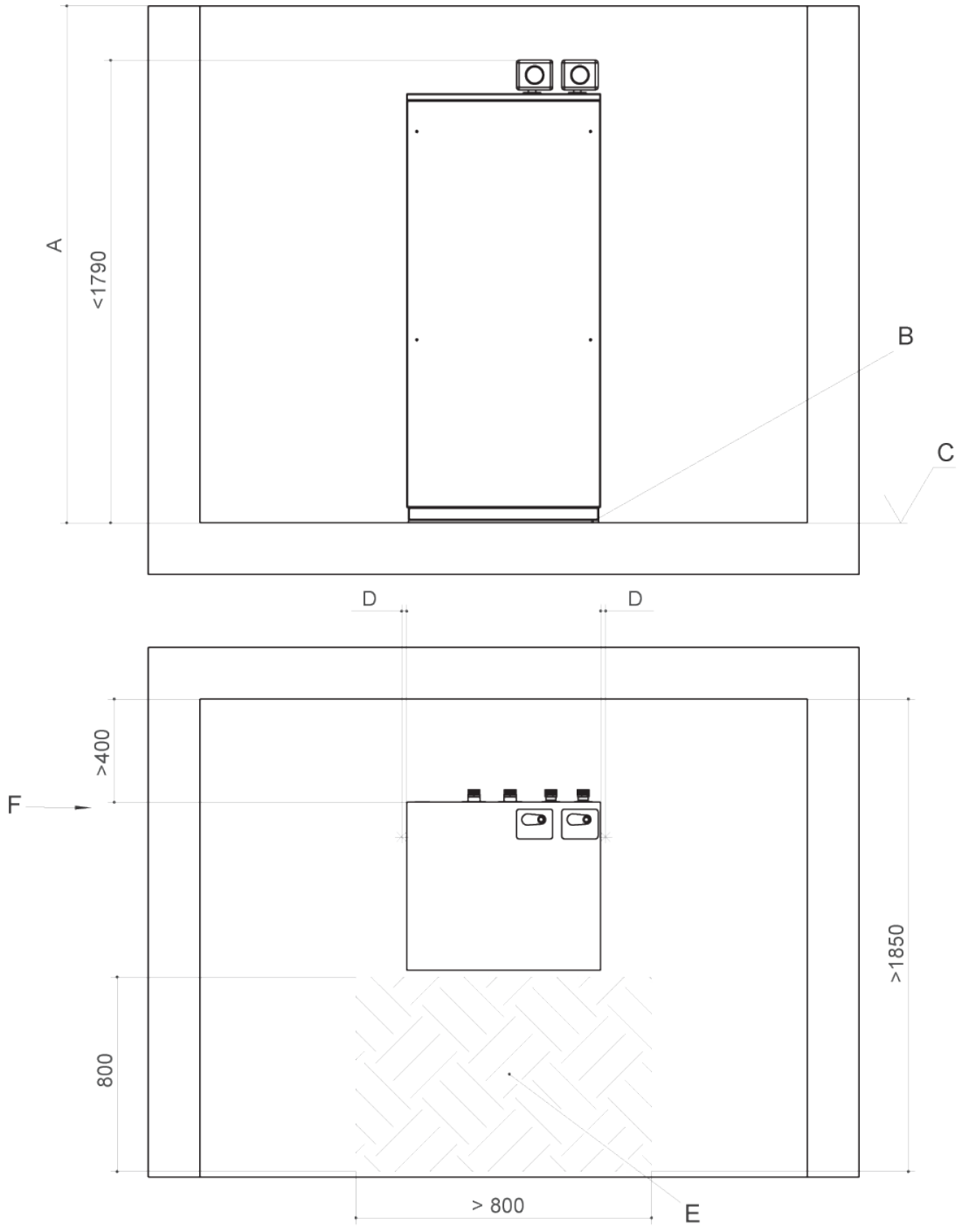
A	Front view
B	Top view
C	Rear view
D	Control element

1	Heating water outflow (forward flow) DIN 2999 R1½"AG
2	Heating water inflow (return flow) DIN 2999 R1½"AG
3	Heat source inflow (return flow) DIN 2999 R1½"AG
4	Heat source outflow (forward flow) DIN 2999 R1½"AG
5	Ducts for electric/sensor cables
6	Safety components

Attention! Included in scope of delivery:
4 x compensator DN 40, Rp 1½"IG DIN 2999

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Size 2: Clearance dimensions

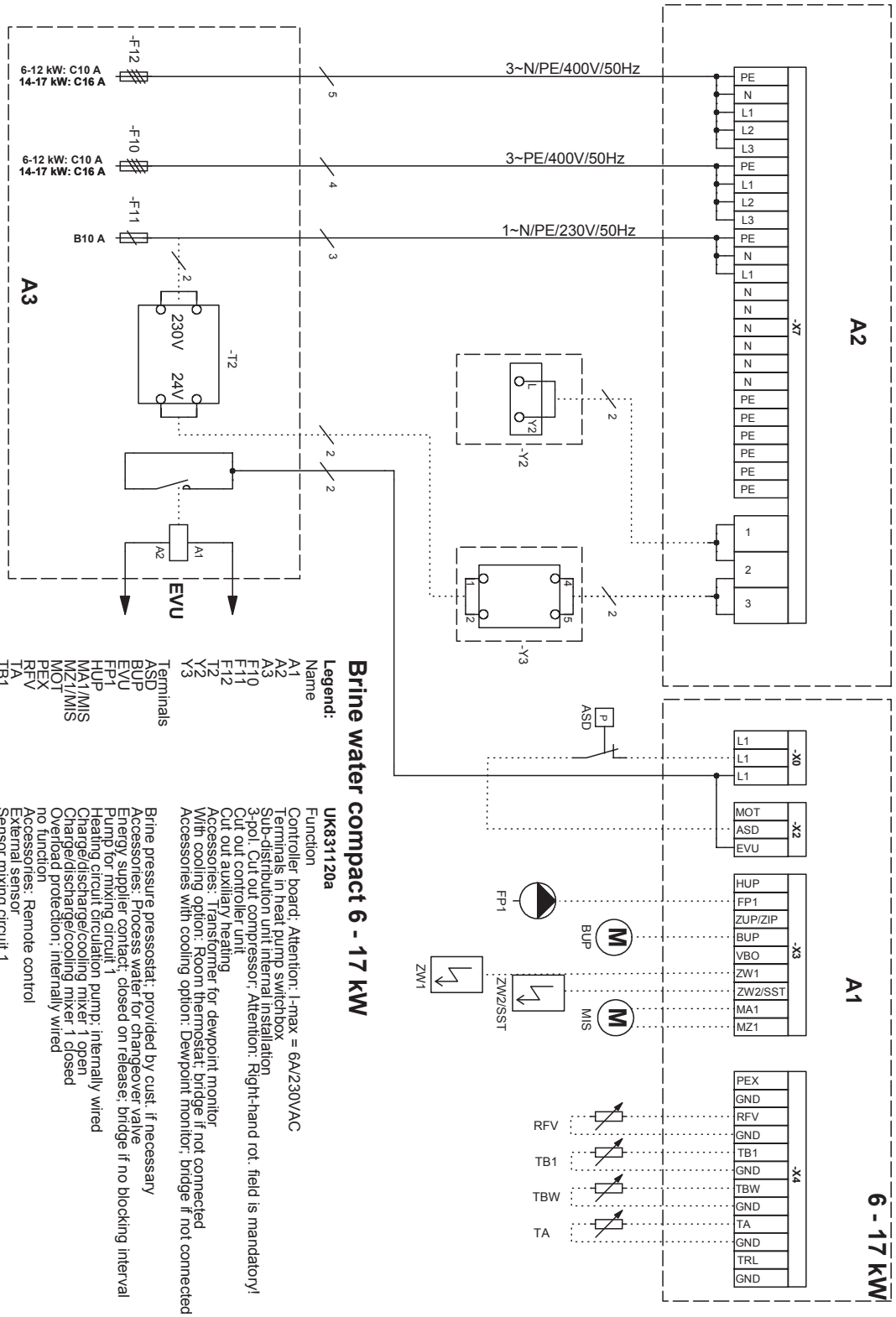


Legend: UK819255b

All dimensions in mm.

A	Room height ≥ 2000
B	Unit installation on sylomer strips
C	Top edge of finished floor
D	Distance to next lateral object ≥ 20
E	Shaded area = free space for service purposes
F	In the event of offset mounting of the compensators the dimension 400 can be reduced to ≥ 250. The bracket must be provided by the customer.

© Alpha-InnoTec GmbH



Brine water compact 6 - 17 kW

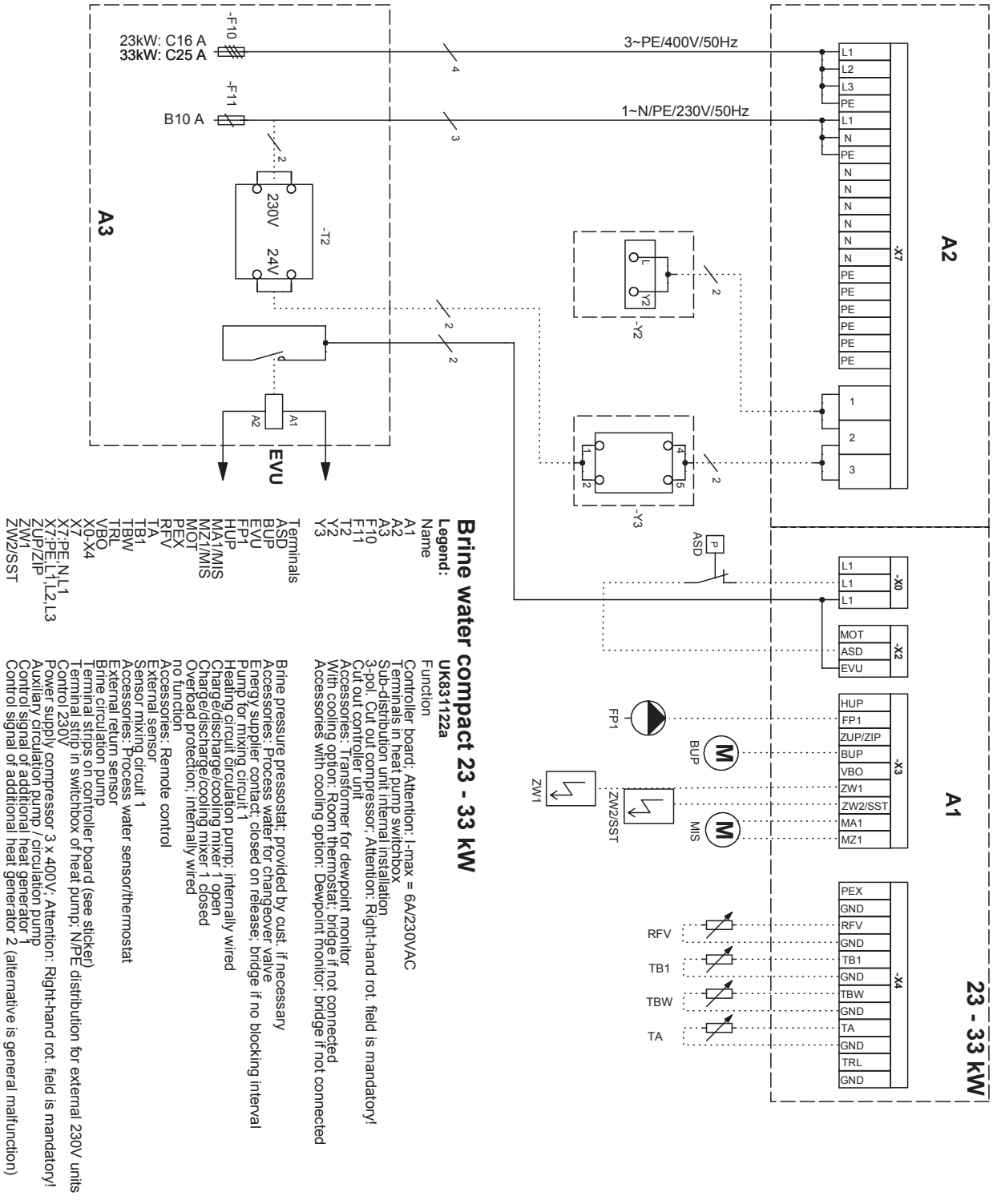
Legend:

Name	Function
A1	Controller board; Attention: I-max = 6A/230VAC
A2	Terminals in heat pump switchbox
A3	Sub-distribution unit internal installation
F10	3-pol. Cut out compressor; Attention: Right-hand rot. field is mandatory!
F11	Cut out controller unit
F12	Cut out auxiliary heating
T2	Accessories: Transformer for dewpoint monitor
Y2	With cooling option: Room thermostat; bridge if not connected
Y3	Accessories with cooling option: Dewpoint monitor; bridge if not connected

Terminals	
ASD	Brine pressostat; provided by cust. if necessary
BUP	Accessories: Process water for changeover valve
EVU	Energy supplier contact; closed on release; bridge if no blocking interval
FP1	Pump for mixing circuit 1
HUP	Heating circuit circulation pump; internally wired
MA1/MIS	Charge/discharge/cooling mixer 1 open
MZ1/MIS	Charge/discharge/cooling mixer 1 closed
MOT	Overload protection; internally wired
PEX	no function
RFV	Accessories: Remote control
TA	External sensor
TB1	Sensor mixing circuit 1
TBW	Accessories: Process water sensor/thermostat
TRL	External return sensor
VBO	Brine circulation pump
X0-X4	Terminal strips on controller board (see sticker)
X7	Terminal strip in switchbox of heat pump; N/PE distribution for external 230V units
X7:PE,N,L1	Control 230V
X7:PE,N,L1,L2,L3	Auxiliary heating 3 x 400V
X7:PE,L1,L2,L3	Power supply compressor 3 x 400V; Attention: Right-hand rot. field is mandatory!
ZUP/ZIP	Auxiliary circulation pump / circulation pump
ZW1	Control signal of additional heat generator 1; internally wired
ZW2/SST	Control signal of additional heat generator 2 (alternative is general malfunction)

UK831120a

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH



Brine water compact 23 - 33 kW

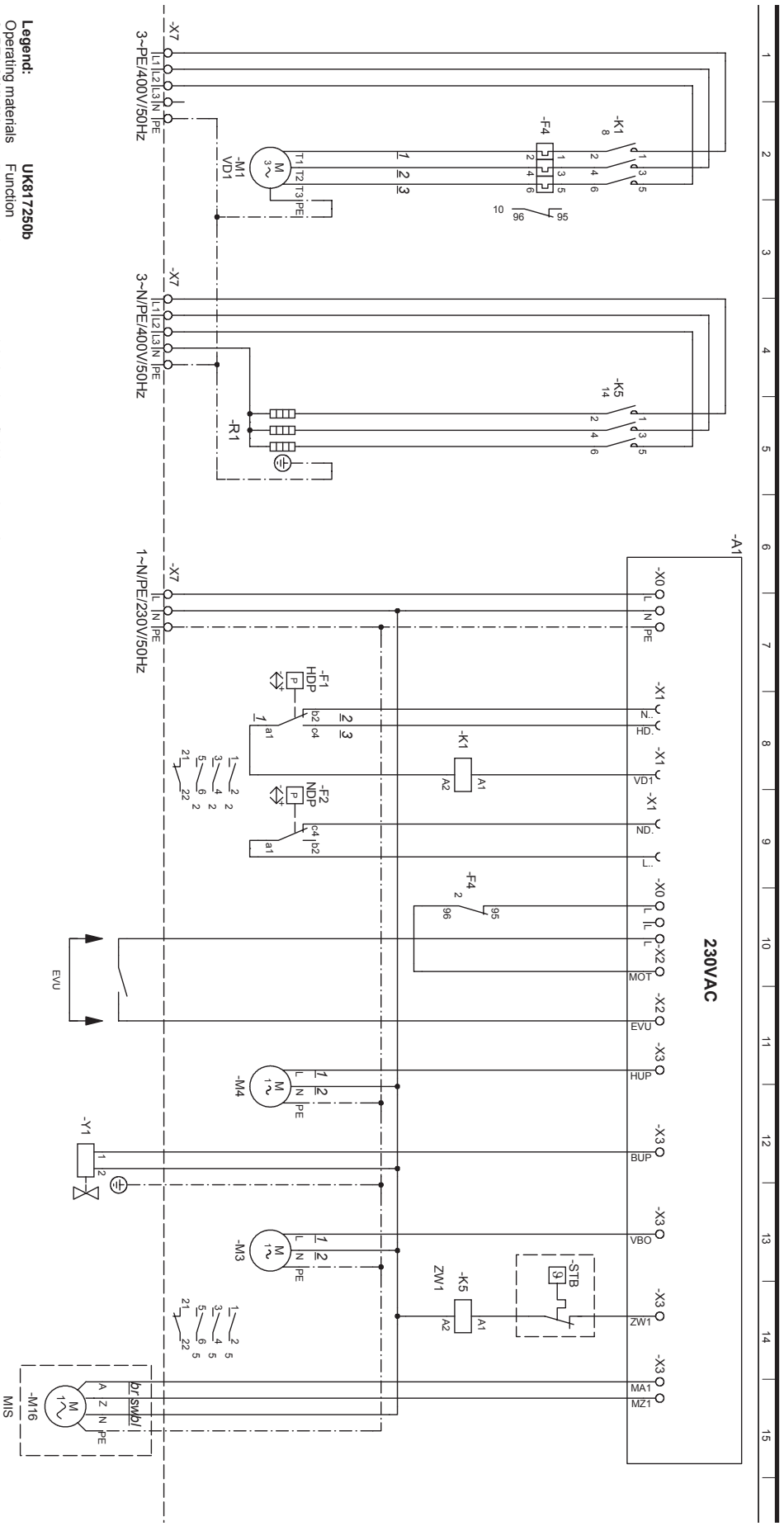
Legend:

UK831122a

Name	Function
A1	Controller board; Attention: I-max = 6A/230VAC
A2	Terminals in heat pump switchbox
A3	Sub-distribution unit internal installation
F10	3-pol. Cut out compressor; Attention: Right-hand rot. field is mandatory!
F11	Cut out controller unit
T2	Accessories: Transformer for dewpoint monitor
Y2	With cooling option: Room thermostat; bridge if not connected
Y3	Accessories with cooling option: Dewpoint monitor; bridge if not connected

Terminals	
ASD	Brine pressostat; provided by cust. if necessary
BUP	Accessories: Process water for changeover valve
EVU	Energy supplier contact; closed on release; bridge if no blocking interval
FP1	Pump for mixing circuit 1
HUP	Heating circuit circulation pump; internally wired
MA1/MIS	Charge/discharge/cooling mixer 1 open
MZ1/MIS	Charge/discharge/cooling mixer 1 closed
MOT	Overload protection; internally wired
PEX	no function
RFV	Accessories: Remote control
TA	External sensor
TB1	Sensor mixing circuit 1
TBW	Accessories: Process water sensor/thermostat
TRL	External return sensor
VBO	Brine circulation pump
X0-X4	Terminal strips on controller board (see sticker)
X7	Terminal strip in switchbox of heat pump; N/PE distribution for external 230V units
X7:PE,N,L1	Control 230V
X7:PE,L1,L2,L3	Power supply compressor 3 x 400V; Attention: Right-hand rot. field is mandatory!
ZUP/ZIP	Auxiliary circulation pump / circulation pump
ZW1	Control signal of additional heat generator 1
ZW2/SST	Control signal of additional heat generator 2 (alternative is general malfunction)

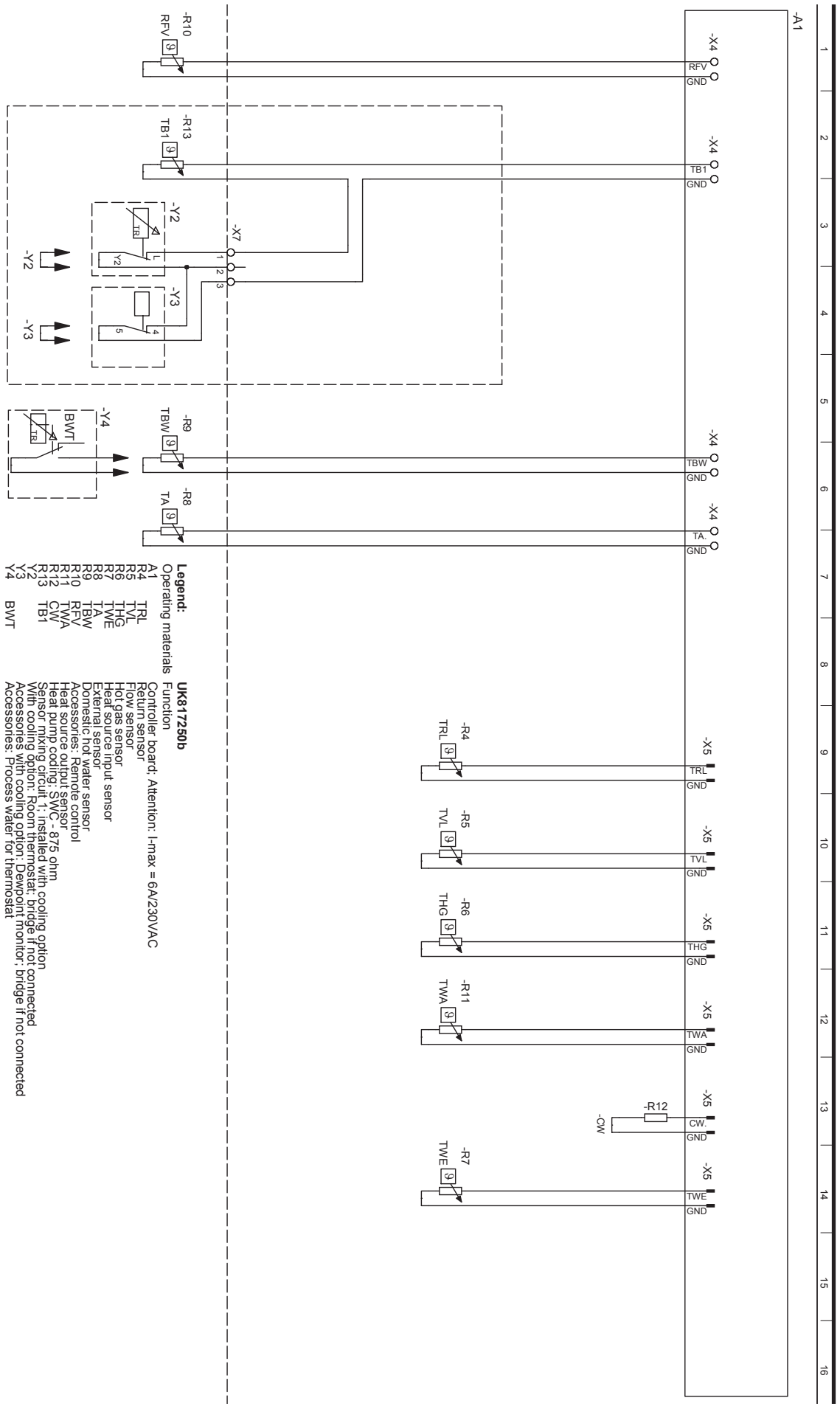
© Alpha-InnoTec GmbH



Legend:

Operating materials	**UK817250b**
3~PE/400V/50Hz	Function
3~N/PE/400V/50Hz	Power supply compressor; right-hand rot. field is mandatory!
1~N/PE/230V/50Hz	Power supply aux. heating
	Controller supply
A1	Controller board; Attention: I-max = 6A/230VAC
EVU	Energy supplier contact; closed on release; bridge if no blocking interval
F1	High-pressure switch
F2	Low-pressure switch
K1	Contactor for compressor 1
K5	Contactor for auxiliary heating
M1	Compressor 1
M3	Brine pump
M4	Heating circulation pump
M16	Mixer; installed with cooling option
R1	Auxiliary heating
STB	Safety temperature limiter heating element
X7	Terminal strip in switchbox of heat pump; N/PE distribution for external 230V units
Y1	Accessories: Process water for changeover valve
BUP	
HDP	
NDP	
VD1	
ZW1	
BOSUP	
HUP	
MIS	

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

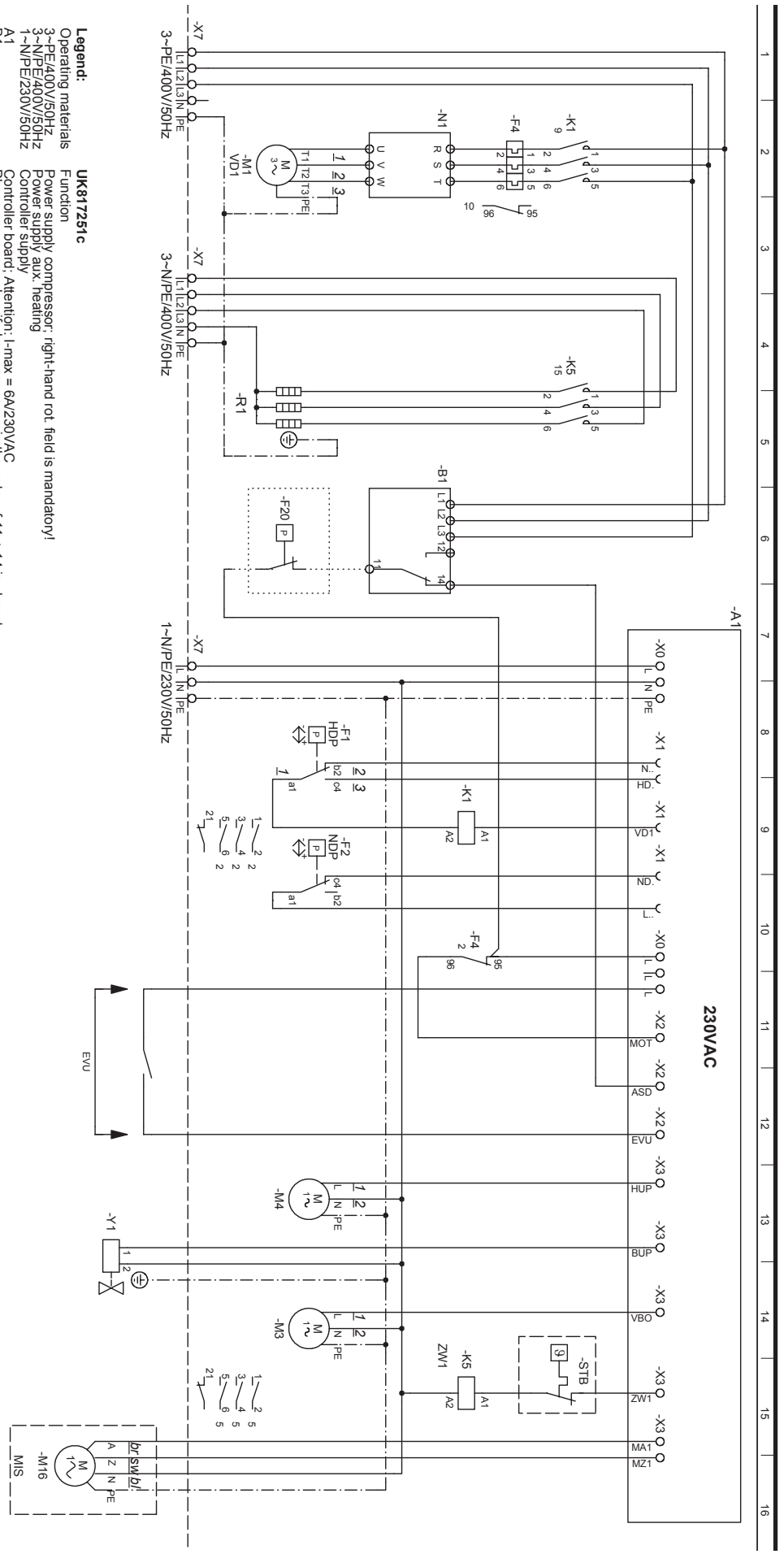


Legend:

	Operating materials	Function
A1		Controller board; Attention: I-max = 6A/230VAC
R4	TRL	Return sensor
R5	TVL	Flow sensor
R6	THG	Hot gas sensor
R7	TWE	Heat source input sensor
R8	TA	External sensor
R9	TBW	Domestic hot water sensor
R10	RFV	Accessories: Remote control
R11	TWA	Heat source output sensor
R12	CW	Heat pump coding: SWC - 875 ohm
R13	TB1	Sensor mixing circuit 1; installed with cooling option
Y2		With cooling option: Room thermostat; bridge if not connected
Y3		Accessories with cooling option: Dewpoint monitor; bridge if not connected
Y4	BWT	Accessories: Process water for thermostat

UK817250b

© Alpha-InnoTec GmbH



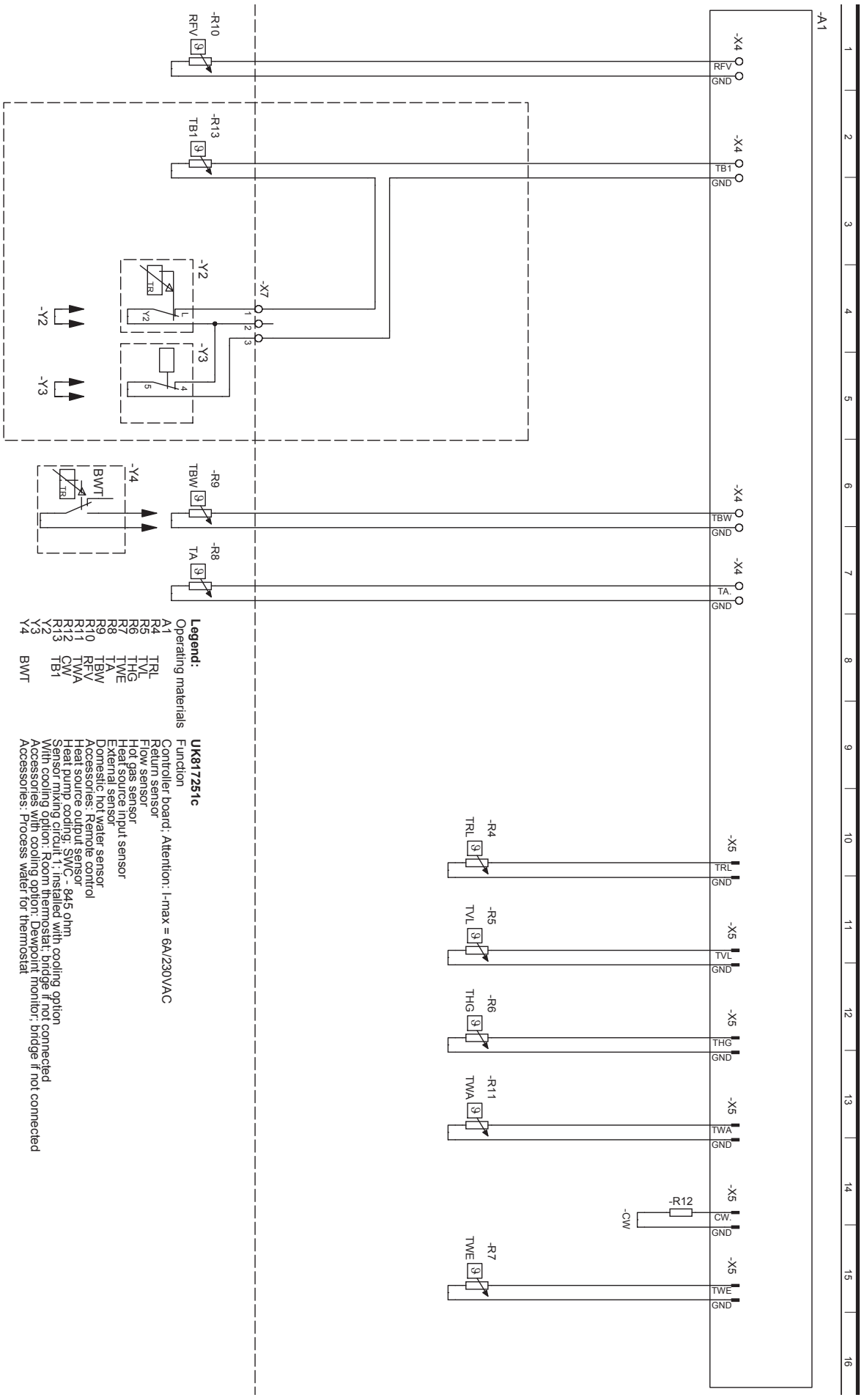
Legend:

Operating materials	
3~PE/400V/50Hz	
3~N/PE/400V/50Hz	
1~N/PE/230V/50Hz	
A1	
B1	
EVU	
F1	HDP
F2	NDP
F4	
F20	
K1	
K5	
M1	VD1
M3	ZW1
M4	BOSUP
M16	HUP
N1	MIS
R1	
STB	ZW1
X7	
Y1	
BUP	

UK817251c

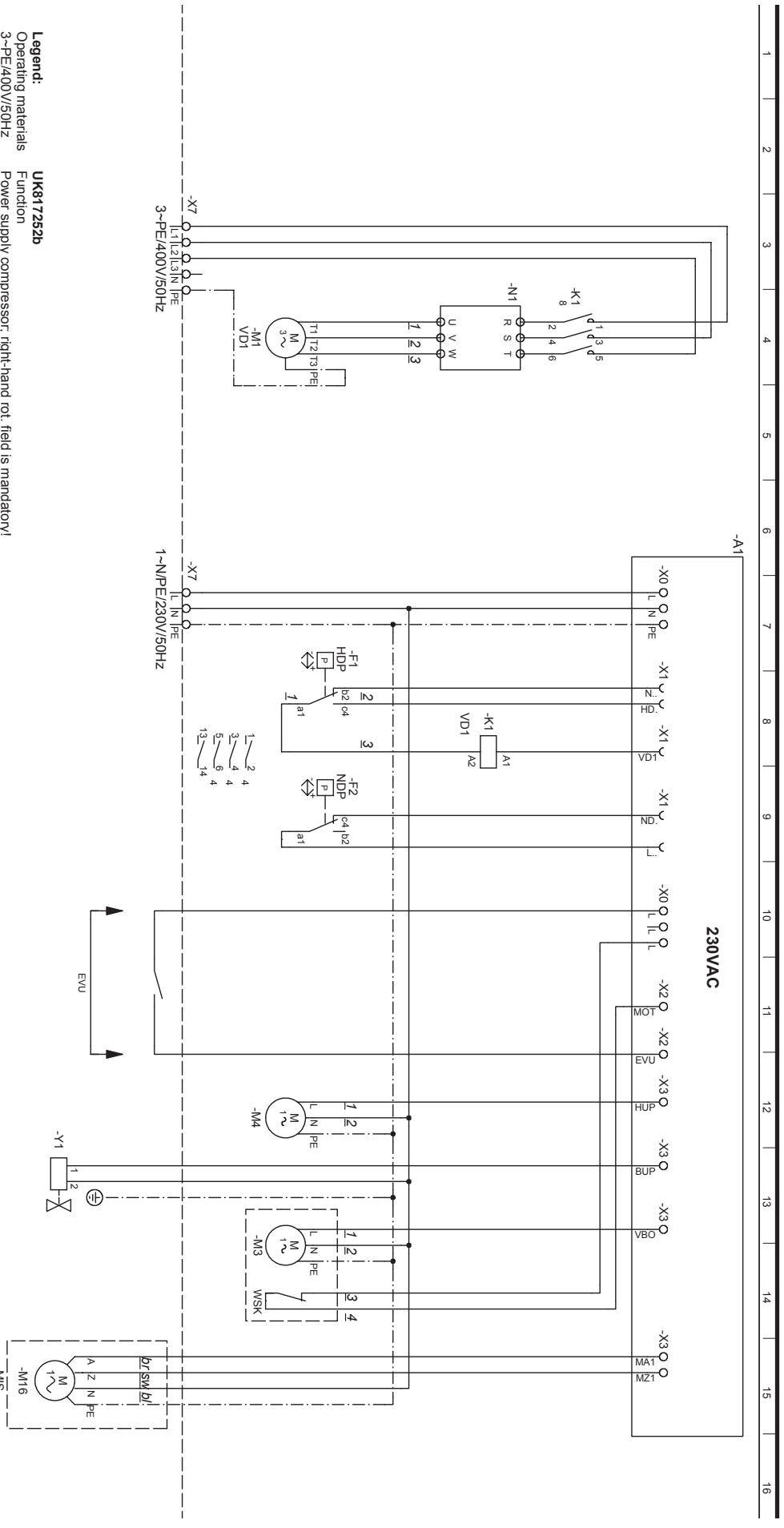
Function
Power supply compressor; right-hand rot. field is mandatory!
Power supply aux. heating
Controller supply
Controller board; Attention: I-max = 6A/230VAC
Phase sequence relay; if phase sequence in the order of 11 + 14 is closed
Energy supplier contact; closed on release; bridge if no blocking interval
High-pressure switch
Low-pressure switch
Overload relay for compressor 1
Brine pressure pressostat; provided by cust. if necessary
Contactor for compressor 1
Contactor for auxiliary heating
Compressor 1
Brine pump
Heating circulation pump
Mixer; installed with cooling option
Starting current limit
Auxiliary heating
Safety temperature limiter heating element
Terminal strip in switchbox of heat pump; N/PE distribution for external 230V units
Accessories: Process water for changeover valve

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH



© Alpha-InnoTec GmbH

Circuit diagram 1/2



Legend:

Operating materials
3~PE/400V/50Hz
1~N/PE/230V/50Hz

A1
EVU
F1
F2
K1
M1
M3
M4
M16
N1
WSK
X7
Y1

HDP
NDP
VD1
VD1
BOSUP
HUP
MIS

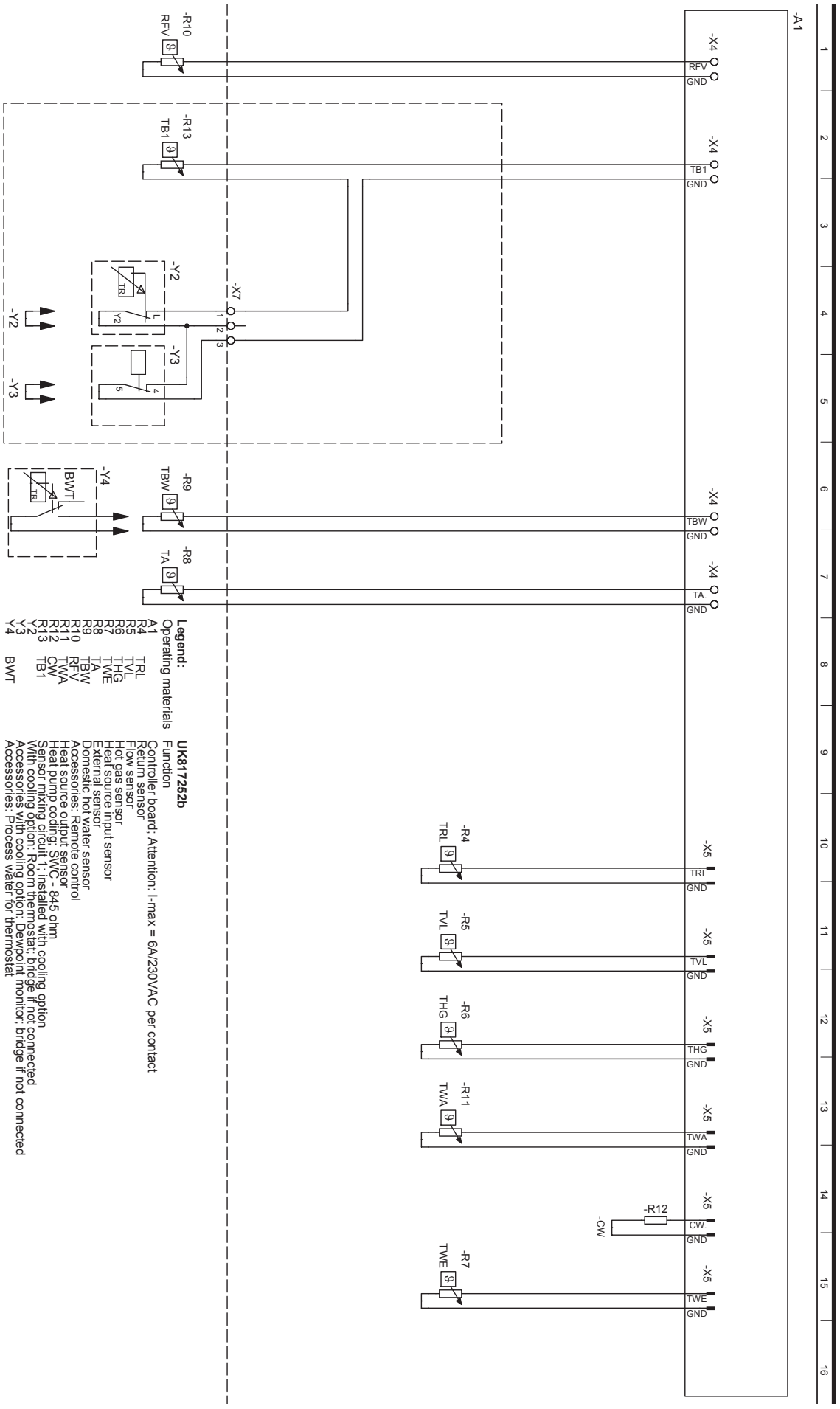
BUP

UK817252b

Function
Power supply compressor, right-hand rot. field is mandatory!
Controller supply

Controller board: Attention: I-max = 6A/230VAC
Energy supplier contact: closed on release; bridge if no blocking interval
High-pressure switch
Low-pressure switch
Contactor for compressor 1
Compressor 1
Brine pump
Heating circulation pump
Mixer, installed with cooling option
Starting current limit
Pump thermocontact
Terminal strip in switchbox of heat pump; N/PE distribution for external 230V units
Accessories: Process water for changeover valve

We reserve the right to modify technical specifications without prior notice.
UK830300/170717
© Alpha-InnoTec GmbH

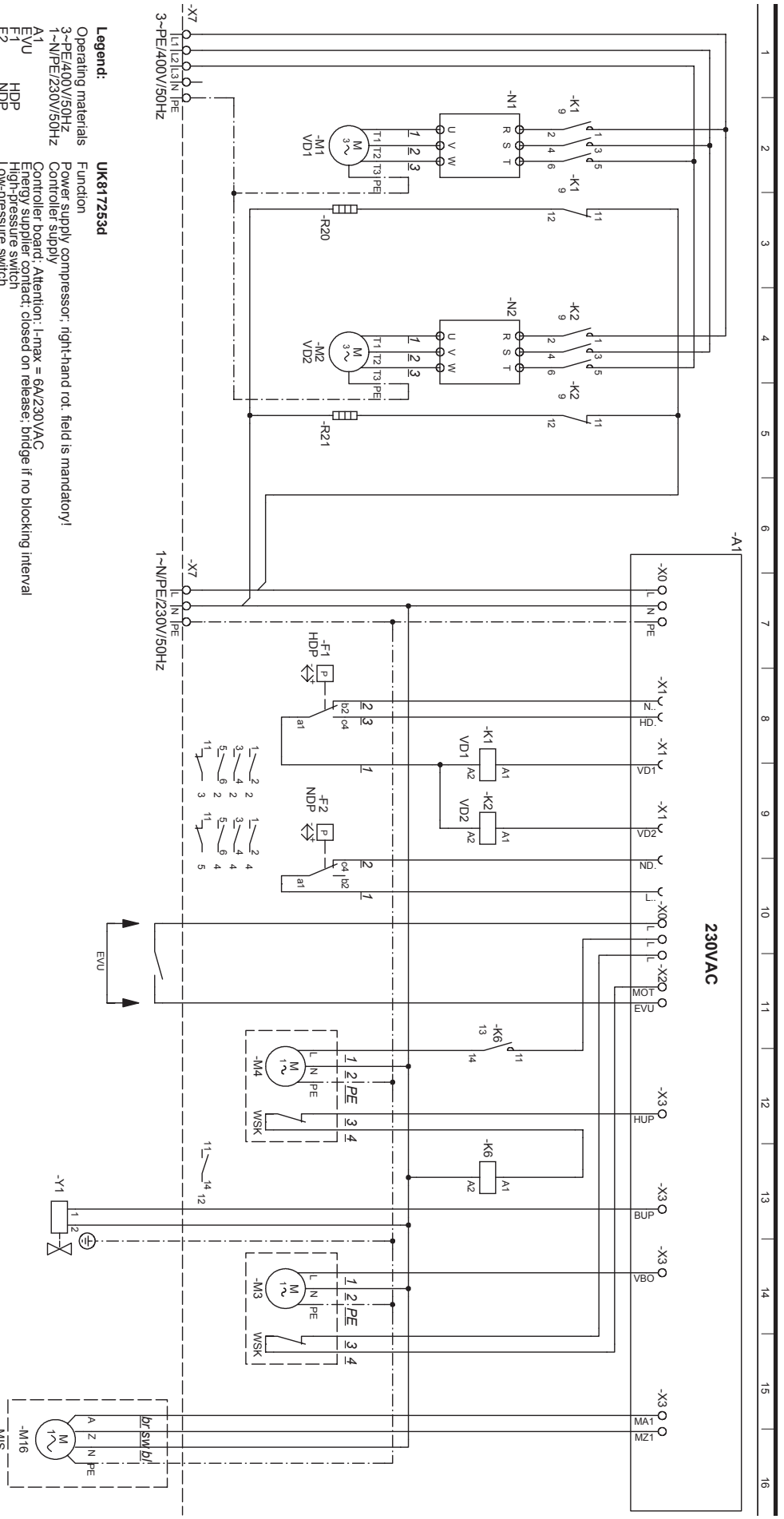


Legend:

	Operating materials	Function
A1		Controller board; Attention: I-max = 6A/230VAC per contact
R4	TRL	Return sensor
R5	TVL	Flow sensor
R6	THG	Hot gas sensor
R7	TWE	Heat source input sensor
R8	TA	External sensor
R9	TBW	Domestic hot water sensor
R10	RFV	Accessories: Remote control
R11	TWA	Heat source output sensor
R12	CW	Heat pump coding: SWC - 845 ohm
R13	TB1	Sensor mixing circuit 1; installed with cooling option
Y2		With cooling option: Room thermostat; bridge if not connected
Y3		Accessories with cooling option: Dewpoint monitor; bridge if not connected
Y4	BWT	Accessories: Process water for thermostat

UK817252b

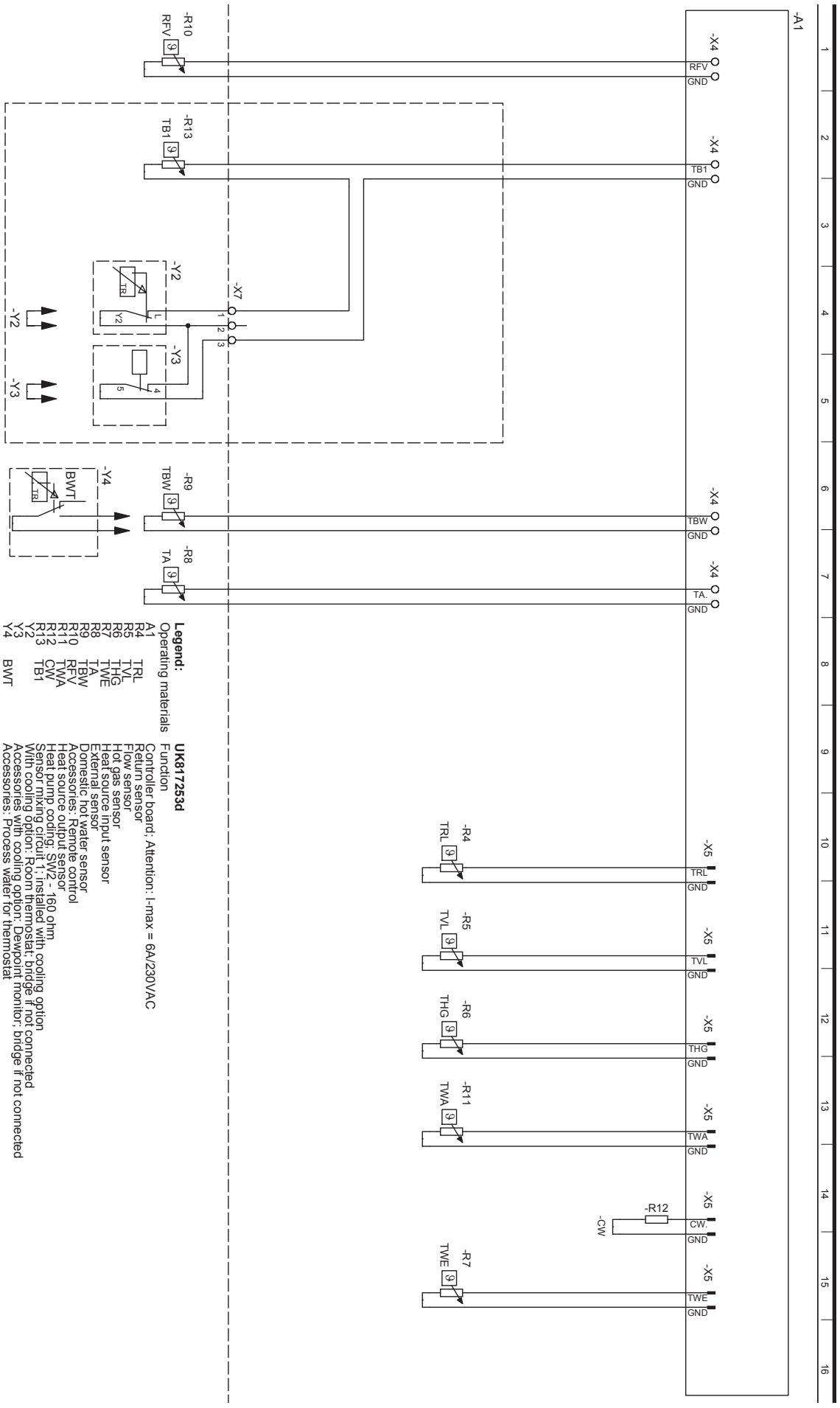
Circuit diagram 1/2



Legend:

UK817253d	
Operating materials	Function
3~PE/400V/50Hz	Power supply compressor; right-hand rot. field is mandatory!
1~N/PE/230V/50Hz	Controller supply
A1	Controller board; Attention: I-max = 6A/230VAC
EVU	Energy supplier contact; closed on release; bridge if no blocking interval
F1 HDP	High-pressure switch
F2 NDP	Low-pressure switch
K1 VD1	Contactor for compressor 1
K2 VD2	Contactor for compressor 2
K6	Contactor for thermo contact on heating circulation pump
M1 VD1	Compressor 1
M2 VD2	Compressor 2
M3 BOSUP	Brine pump
M4 HUP	Heating circulation pump
M16 MIS	Mixer; installed with cooling option
N1	Starting current limit compressor 1
N2	Starting current limit compressor 2
R20	Sump heating for compressor 1
R21	Sump heating for compressor 2
WSK	Pump thermocontact
X7	Terminal strip in switchbox of heat pump; N/PE distribution for external 230V units
Y1 BUP	Accessories: Process water for changeover valve

We reserve the right to modify technical specifications without prior notice.
UK830300/170717
© Alpha-InnoTec GmbH



Legend:

	Operating materials
A1	
R4	TRL
R5	TVL
R6	THG
R7	TWE
R8	TA
R9	TBW
R10	RFV
R11	TWA
R12	CW
R13	TB1
Y2	
Y3	
Y4	BWT

UK8172534

	Function
	Controller board; Attention: I-max = 6A/230VAC
	Return sensor
	Flow sensor
	Hot gas sensor
	Heat source input sensor
	External sensor
	Domestic hot water sensor
	Accessories: Remote control
	Heat source output sensor
	Heat pump coding; SW2 - 160 ohm
	Sensor mixing circuit 1; installed with cooling option
	With cooling option: Room thermostat: bridge if not connected
	Accessories with cooling option: Dewpoint monitor; bridge if not connected
	Accessories: Process water for thermostat

© Alpha-InnoTec GmbH

EC declaration of conformity

CE

The undersigned
confirms that the following designated device(s) as designed and marketed by us fulfill the standardized EC directives, the EC safety standards and the product-specific EC standards. In the event of modification of the device(s) without our approval, this declaration shall become invalid.

DESIGNATION OF THE DEVICE(S)

Heat Pump

Unit model	Number	Unit model	Number
SWC 60H	100 260	SWC 60H/K	100 270
SWC 80H	100 261	SWC 80H/K	100 271
SWC 100H	100 262	SWC 100H/K	100 272
SWC 120H	100 263	SWC 120H/K	100 273
SWC 140H	100 264	SWC 140H/K	100 274
SWC 170H	100 265	SWC 170H/K	100 275
SWC 230	100 266	SWC 230K	100 276
SWC 330	100 267	SWC 330K	100 277
SWC 70H	100 269	SWC 70H/K	100 279

EC DIRECTIVES

89/392/EWG oder 98/37/EG
73/23/EWG
89/366/EWG

STANDARDIZED EN

EN 378
EN 60529
EN 292/T1/T2
EN 294
EN 349
EN 60335-1/-2-40
EN 55014-1/-2
EN 61000 3-2/-3-3

NATIONAL STANDARDS/DIRECTIVES

DE
UVV BGV D4
DIN 8901

AT

CH
NEV (SR 743.26)

Company:

alphaInnoTec

Industriestrasse 3, D – 95359 Kasendorf

Place, date: Kasendorf, 19.05.2006

Signature:

Jesper Stannow
Technical Director

UK818046

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

General checklist

FOR PREPARATION OF THE COMPLETION REPORT FOR HEAT PUMP SYSTEMS

The general checklist is intended as an aid for the installation and assembly personnel. It makes no claim to be exhaustive. Nevertheless, all items must be checked carefully for compliance.

Heat source air

Channels closed and sealed	☐ Yes
Weather protection screen installed	☐ Yes
Rotary field of fan	☐ O.K.

Heat source brine / heat source water

Heat source volume flow [1])	☐ O.K.
Motor protection setting	.....A
Rotary field of heat source circulating pump	☐ O.K.
Heat source filled, air-free and sealed	☐ Yes

Brine

Frost protection down to	.....°C

Water

Water quality OK [2])	☐ No	☐ Yes
Well system		☐ Yes
Other heat source		☐ Yes

Heat Pump

Installation of condensate hose		☐ O.K.
Decoupled from structure		☐ Yes
Vibration decouplers for the heating circuit and heat source connections installed	☐ No	☐ Yes

Heating

Volume flow [1])	☐ O.K.
Heating system designed for maximum	.....°C
Heating system filled, air-free and sealed	☐ Yes
Low temperature heating	☐ Yes
Radiator heating	☐ Yes
All heating circuits can be opened	☐ Yes
Forward flow tank	☐ Yes
Return flow tank	☐ Yes
Separating tank	☐ Yes
Content	 l
Additional heating	..... kW

Hot water

with heat pump	☐ No	☐ Yes
Request with thermostat		☐ Yes
Request with cooling		☐ Yes
Volume flow [1])		☐ O.K.
Heat exchanger surface		..... m²
Connections sealed		☐ Yes

Electric

Rotary field, power network		☐
Protective measures inspected		☐ Yes
Rotary field of condenser		☐ O.K.
Return flow sensor mounted	☐ Internal	☐ External
Outdoor sensor mounted	☐ No	☐ Yes

[1]) Checked with specification

[2]) Report of water analysis must be submitted

Checked on: .....

By: .....

Signature : .....

In Germany the following applies:

Send this completed general checklist to the factory customer service department, together with the completion report for heat pump systems.

Outside of Germany the following applies:

Send this completed general checklist to the manufacturer's local partner, together with the completion report for heat pump systems.

Sending the completion report is also a request for a technician authorized by the manufacturer to commission your heat pump.

FAZ-WP Formblatt UK820522c Stand: 240407

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Completion report for heat pump systems

in **DE:** to the Alpha-InnoTec customer service department +49 (0) 9228 9906 199

in **AT:** to the Alpha-InnoTec customer service department +43 (0) 732 24 42 01 4

in **CH:** to the Alpha-InnoTec customer service department +41 (0) 62 748 20 01

in all other countries:

To the manufacturer's local partner

COMPLETION REPORT AND REQUEST FOR COMMISSIONING

During commissioning, the heat pump system will be inspected to ensure that it is functioning properly. Technicians authorized by the manufacturer ensure that all factory specifications have been checked and that the heat pump system can operate reliably over an extended period. The factory commissioning involves costs and is mandatory for extension of the warranty services.

☐ **Initial commissioning** ☐ **Re-commissioning**

Heat pump type

Regulator type

CONTRACTOR

☐ Electric ☐ Heating
☐ other company

Company

Contact

Street address

ZIP code / head office

Phone

Preferred date

Date / time

END CUSTOMER / OPERATOR

Name / First name

Street address

ZIP code / city

Phone

Alternate date

Date / time

Send the completed report 1 week before the preferred date together with the general checklist. If there is a conflict with the date, you will be contacted by phone.

I/we hereby confirm that all preliminary work required for commissioning has been carried out and completed. A detailed and thorough installation check has been conducted. The heat pump system is ready for operation.

Check once again:

Is the heating circuit filled and pressure tested; do the circulating pumps function properly?	☐ No	☐ Yes
Is the heat source system completed, inspected and OK?	☐ No	☐ Yes
Have the heating circuit, heat source system and circulating pumps been bled?	☐ No	☐ Yes
Are all electrical components permanently connected according to the circuit diagram; are all sensors properly mounted?	☐ No	☐ Yes
Have all volume flows and water flow rates been checked and are they OK?	☐ No	☐ Yes

In the event that the heat pump system is not ready for operation and if installation work has to be performed by the commissioning technician during commissioning, this will involve charges to the contractor. If the heat pump system is not ready for operation, the commissioning technician can request a repeat commissioning, which will involve additional costs.

The contractor or an authorized representative must be present during commissioning.

The operator of the system should be present during commissioning in order to ensure that proper instruction is received.

An acceptance report will be prepared during commissioning.

I, the undersigned, hereby request commissioning, in return for a fee.

Place, date

Signature / company stamp

FAZ-WP Formblatt UK820522c Stand: 240407

We reserve the right to modify technical specifications without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

Notes

© Alpha-InnoTec GmbH

Customer service

ADDRESSES IN THE EVENT OF A SERVICE CALL

For a current list and additional partners of the manufacturer, please visit www.alpha.innotec.com.

DE
Alpha-InnoTec GmbH
Industriestrasse 3
95359 Kasendorf
Tel.: +49 (0) 9228 9906 190
Fax: +49 (0) 9228 9906 199
e-Mail:info@alpha-innotec.com
www.alpha-innotec.com

AT
Peter Riess
Mannheimstrasse 1
4040 Linz
Tel.: +43 (0) 22 44 20 18
Fax: +43 (0) 22 44 20 14
e-Mail: peter.riess@liwest.at

BE
NATHAN Import/Export N.V.-S.A.
Lozenberg 4
1932 Zaventem
Tel.: +32 (0) 27 21 15 70
Fax: +32 (0) 27 25 35 53
e-Mail: info@nathan.be
www.nathan.be

BR
THERMACQUA
AV. República Argentina
3021 Conj. 21 Piso L
CEP 80610-260 Portao Curtiba PR
Tel.: +55 (0) 41 301 566 59
Fax: +55 (0) 41 301 566 59
e-Mail: otto@thermacqua.com.br
www.thermacqua.com.br

CH
Vertretung Alpha-InnoTec Schweiz
Calmotherm AG
Industriepark
6246 Altishofen
Tel.: +41 (0) 62 74820 00
Fax: +41 (0) 62 74820 01
e-Mail: info@calmotherm.ch
www.alpha-innotec.ch
www.calmotherm.ch

Suisse romande
Calmotherm SA
a.v. de Provence 12
1007 Lausanne
Tel.: +41 (0) 21 661 31 43
Fax: +41 (0) 221 661 31 45
e-Mail: info@calmotherm.ch
www.calmotherm.ch

Ticino
Giuliani SA
Via alla Torre 2
6850 Mendriso
Tel.: +45 (0) 91 646 08 81
Fax: +45 (0) 91 646 09 91
e-Mail: giuliani.sa@calmotherm.ch
www.calmotherm.ch

CZ / SK
Tepelna Cerpadia AIT
nám. Republiky 15
614 00 Brno
Tel.: +42 (0) 545 21 40 03
Fax: +42 (0) 545 24 20 90
e-Mail: info@alphatec.cz
www.alpha-innotec.cz

DK
ASAP Energy
Damgade 34
6400 Sønderborg
Tel.: +45 (0) 74 4304 80
Fax: +45 (0) 74 4304 81
e-Mail: info@asap.dk
www.asap.dk

We reserve the right to modify this document without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH

FR
Caldis SarL
Parc d'activités Centr'Alp
209, rue du Rocher de Lorzier
38430 Moirans
Tel.: +33 (0) 4 7691 30 01
Fax: +33 (0) 4 7635 55 90
e-Mail: info@caldis.fr
www.caldis.fr

GB
(England / Wales)
3rd rock energy Ltd.
7 Trowbridge Road, Westbury
Wiltshire BA13 3AY
Tel.: +44 (0) 845 603 37 74
Fax: +44 (0) 845 280 33 66
e-Mail: info@3rdrockenergy.com
www.3rdrockenergy.com

HU
Thermo Kft.
Krisztina körút 27
1122 Budapest
Tel.: +36 (0) 1 356 20 46
Fax: +36 (0) 1 214 28 68
e-Mail: info@geosolar.hu
www.geosolar.hu

IE
PowerTech Ireland Ltd.
40 Dovesky Road
BT79 9BU Omagh, Carrickmore
Tel.: +44 (0) 28 8076 00 88
Fax: +44 (0) 28 8076 04 95
e-Mail: info@powertechireland.co.uk
www.powertechireland.co.uk

IT
(Südtirol / Alto Adige)
PENKOFF
Gemsengasse 17
A – 6020 Innsbruck
Tel.: +43 (0) 5122 7647 90
Fax: +43 (0) 5122 7647 930
e-Mail: office@penkoff.com
www.penkoff.com

LV
SIA „EVA-SAT"
Krasta iela 44
1003 Riga
Tel.: +371 (0) 75 054 80
Fax: +371 (0) 75 053 99
e-Mail: armands.c@evasat.lv
www.evasat.lv

NL
NATHAN Import/Export B.V.
Impact 73
6921 RZ Duiven
Tel.: +31 (0) 26 445 98 45
Fax: +31 (0) 26 445 93 73
e-Mail: info@nathan.nl
www.nathan.nl

NO
Ingv. Torgersen
Langgt. 38
4306 Sandnes
Tel.: +47 (0) 51 6605 95
Fax: +47 (0) 51 6605 94
e-Mail: info@alpha-innotec.no
www.alpha-innotec.no

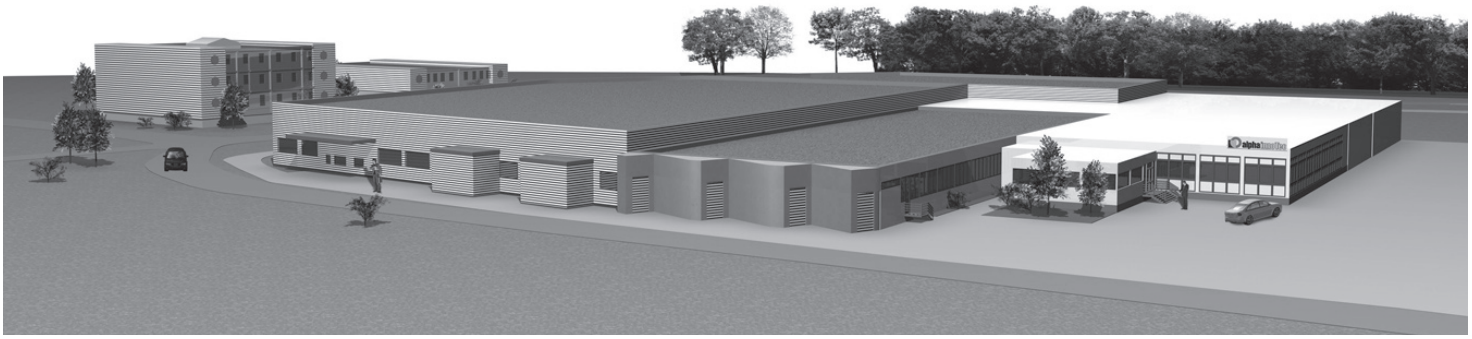
PL
Hydro-Tech
ul. Zakladowa 4d
62-510 Konin
Tel.: +48 (0) 63 245 34 79
Fax: +48 (0) 63 242 37 28
e-Mail: hydro@hydro-tech.pl
www.alpha-innotec.pl
www.hydro-tech.pl

SE
Vämekyl Grossisten AB
Hammarbacken 46
19 149 Sollentuna
Tel.: +46 (0) 8 446 32 10
Fax: +46 (0) 8 732 46 20
e-Mail: info@vkg.se
www.vkg.se

SI
Zeus Solar d.o.o.
Mace 6
4205 Preddvor
Tel.: +38664 (0) 2 555 780
Fax: +38664 (0) 2 555 782
e-Mail: zeussolar@siol.net
www.zeussolar.si

170408

We reserve the right to modify this document without prior notice.
UK830300/170717 © Alpha-InnoTec GmbH



DE

Alpha-InnoTec GmbH
Industriestrasse 3
D – 95359 Kasendorf
Tel.: +49 (0) 9228 9906 0
Fax: +49 (0) 9228 9906 29

e-Mail: info@alpha-innotec.com

www.alpha-innotec.com